IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

KPH HEALTHCARE SERVICES, INC., a/k/a KINNEY DRUGS, INC., individually and on behalf of all others similarly situated,

Plaintiff,

v.

ALLERGAN, INC.,

Defendant.

Case No. _____

DEMAND FOR JURY TRIAL

CLASS ACTION COMPLAINT

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I. INTRODUCTION

1. Plaintiff KPH Healthcare Services, Inc., a/k/a Kinney Drugs, Inc. ("Plaintiff"), brings this Class Action Complaint on behalf of itself and on behalf of a Class of Direct Purchasers of Restasis® (cyclosporine ophthalmic emulsion, 0.05%) from Defendant Allergan, Inc. ("Allergan" or "Defendant") during the period May 2014 until the anticompetitive effects of Allergan's conduct cease.

2. Plaintiff seeks to recover damages incurred by itself and Members of the Direct Purchaser Class due to Defendant's unlawful monopolization, overarching scheme to monopolize, and conspiracy to monopolize the market for Restasis in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2, and contract in restraint of trade in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1.

3. As a result of Defendant's anticompetitive scheme, Plaintiff and Members of the Direct Purchaser Class paid more for Restasis than they otherwise would have paid in the absence of Defendant's unlawful conduct. As set forth below, Defendant's conduct as described herein violates the federal antitrust laws and, in particular, Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2 ("Sherman Act").

4. Plaintiff makes the allegations herein based on personal knowledge and investigation of these matters relating to itself and upon information and belief as to all other matters.

II. PARTIES

5. Plaintiff KPH Healthcare Services, Inc. a/k/a Kinney Drugs, Inc. ("KPH") is a corporation organized under the laws of the state of New York, with headquarters in Gouverneur, New York. KPH operates retail and online pharmacies in the Northeast under the name Kinney Drugs, Inc. KPH is the assignee of McKesson Corporation, who directly purchased Restasis

from Defendant during the Class Period. As a result of Defendant's alleged anticompetitive conduct, KPH paid supracompetitive prices for its Restasis purchases and KPH was injured by the illegal conduct alleged herein.

6. The defendant, Allergan, Inc., is a Delaware corporation with its principal place of business located in Irvine, California. Allergan is the holder of approved New Drug Application No. 50-790 for cyclosporine ophthalmic emulsion, 0.05%, sold under the Restasis trademark. Allergan was also the applicant for, and holder of, the six second wave patents which it claims cover Restasis: U.S. Patent No. 8,629,111 (issued January 14, 2014); U.S. Patent No. 8,633,162 (issued January 21, 2014); U.S. Patent No. 8,642,556 (issued February 4, 2014), U.S. Patent No. 8,648,048 (issued February 11, 2014), U.S. Patent No. 8,685,930 (issued April 1, 2014), and U.S. Patent No. 9,248,191 (issued February 2, 2016). As of September 8, 2017, Allergan purports to have transferred its ownership interests in the second wave patents to Mohawk.

7. All of the actions described in this complaint are part of, and in furtherance of, the unlawful conduct alleged herein, and were authorized, ordered, or undertaken by Allergan's officers, agents, employees, or other representatives while actively engaged in the management of Allergan's affairs and within the course and scope of their duties and employment, or with Allergan's actual, apparent, or ostensible authority.

III. JURISDICTION AND VENUE

8. The Court has subject matter jurisdiction under 28 U.S.C. §§ 1331, 1337(a) and 15 U.S.C. § 15. This action alleges violations of sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1 & 2. Those violations are actionable under sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15(a) & 26. The complaint seeks an injunction and to recover treble damages, interest, and

costs of suit and attorneys' fees due to Allergan's unlawful foreclosure of generic competition in the market for cyclosporine ophthalmic emulsion, 0.05% in the United States.

9. Venue is proper in this District pursuant to 15 U.S.C. §§ 15(a) & 22 and 28 U.S.C. § 1391(b), (c), and (d). During the class period (May 2014 to the present), Allergan resided, transacted business, was found, or had agents in this District. A substantial portion of the wrongdoing alleged in this complaint affected interstate trade and commerce, and was carried out in this District. Also during the class period, Allergan maintained and continues to maintain significant offices and operations in Texas. It operated a facility in Texas where it manufactured and distributed numerous pharmaceutical products, including Restasis. And it coordinated its nationwide distribution of Restasis from that Texas site. Allergan also purposefully selected this District to pursue its baseless patent infringement lawsuits against generic competitors. And Allergan negotiated its agreement with Mohawk in Texas, another part of the alleged unlawful scheme.

10. This Court has personal jurisdiction over Allergan. Allergan's wrongful conduct had a substantial effect on interstate commerce of the United States, including in this District. During the class period, Allergan manufactured, sold, and shipped Restasis in a continuous and uninterrupted flow of interstate commerce, which included sales of Restasis in and from this District, advertisement of Restasis in media in this District, monitoring prescriptions of Restasis by prescribers within this District, and employment of product detailers in this District, who as agents of Allergan marketed Restasis to prescribers in this District. Allergan's conduct had a direct, substantial, and reasonably foreseeable effect on interstate commerce, including commerce within this District.

11. Throughout the United States and including in this District, Allergan transacted business, maintained substantial contacts, or committed overt acts in furtherance of the illegal scheme. The scheme has been directed at, and has had the intended effect of, causing injury to persons residing in, located in, or doing business throughout the United States, including in this District.

IV. LEGAL AND REGULATORY BACKGROUND

A. The Regulatory Structure for Approval of Generic Drugs and Substitution of Generics for Brand Name Drugs

12. Under the Federal Food, Drug, and Cosmetic Act ("FDCA"), manufacturers who create a new drug product must obtain the approval of the FDA to sell the new drug by filing a New Drug Application ("NDA"). 21 U.S.C. §§ 301-392. An NDA must include submission of specific data concerning the safety and effectiveness of the drug, as well as any information on applicable patents. 21 U.S.C. §§ 355(a) & (b).

13. When the FDA approves a brand name manufacturer's NDA, the brand manufacturer may list any patents that the brand manufacturer believes could reasonably be asserted against a generic manufacturer who makes, uses, or sells a generic version of the brand name drug prior to the expiration of the listed patents in the FDA's book of Approved Drug Products with Therapeutic Equivalence Evaluations, commonly referred to as the "Orange Book." Patents issued after NDA approval may be listed within 30 days of issuance. 21 U.S.C. §§ 355 (b) (1) & (c) (2).

14. A patent applicant is subject to special oaths and duties, such as the duties of disclosure, candor, and good faith, during patent prosecution. A patent applicant is required to disclose to the PTO of "all information known . . . to be material to patentability" including with respect to prior art. *See* 37 C.F.R. § 1.56. This duty extends to all inventors named on a patent

application and any "attorney or agent who prepares or prosecutes the application," as well as "[e]very other person who is substantively involved in the preparation or prosecution of the application." *Id*. § 1.56(c). Where fraud on the PTO "was practiced or attempted" or the duty of disclosure, candor, and good faith "was violated through bad faith or intentional misconduct" no patent should be granted. *Id*. § 1.56(a).

15. The FDA relies completely on the brand name manufacturer's truthfulness about patents' validity and applicability; the FDA has neither the authority nor the resources to check the manufacturer's representations for accuracy or trustworthiness.

B. The Hatch-Waxman Amendments Advanced the Goal of Providing Access to Generic Pharmaceuticals.

16. The Hatch-Waxman Amendments enacted in 1984 simplified the regulatory hurdles for prospective generic manufacturers by eliminating the need for them to file lengthy and costly NDAs. *See* Drug Price Competition and Patent Term Restoration Act, Pub. L. No. 98-417, 98 Stat. 1585 (1984). A generic manufacturer seeking approval to sell a generic version of a brand name drug may now file an Abbreviated New Drug Application (ANDA). An ANDA relies on the scientific findings of safety and effectiveness included in the brand name drug manufacturer's original NDA, but must show that the generic drug contains the same active ingredient(s), dosage form, route of administration, and strength as the brand name drug – that is, that the generic drug is bioequivalent to the brand name drug. The FDA assigns generic drugs that are bioequivalent to branded drugs an "AB" rating.[1]

[1] Generic manufacturers can also seek approval of non-AB-rated generics. The FDCA permits "hybrid" applications that are neither full NDAs containing safety and efficacy data, nor ANDA applications showing that the proposed product is the "same" as the NDA product. 21 U.S.C. § 505(b)(2). Drug products approved under this section use a safe and effective active pharmaceutical ingredient, but modify the drug product in some way so that it differs from the original NDA product, either in dosage form, strength, route of administration, formulation,

17. The FDCA and Hatch-Waxman Amendments operate on the presumption that bioequivalent drug products containing identical amounts of the same active ingredients in the same route of administration and dosage form, and meeting applicable standards of strength, quality, purity and identity, are therapeutically equivalent and may be substituted for one another. Thus, bioequivalence demonstrates that the active ingredient of the proposed generic drug would be present in the blood of a patient to the same extent and for the same amount of time as the branded counterpart. 21 U.S.C. § 355(j) (8) (B).

18. Through the Hatch-Waxman Amendments, Congress sought to expedite the entry of generic drugs, thereby reducing healthcare expenses nationwide. Congress also wanted to protect pharmaceutical companies' incentives to create new and innovative products.

19. The Hatch-Waxman Amendments achieved both goals, substantially advancing the rate of generic product launches, and ushering in an era of historic high profit margins for brand name pharmaceutical companies. In 1983, pre-Hatch Waxman Amendments, only 35% of the top-selling drugs with expired patents had generic versions available; by 1998, nearly all did. In 1984, prescription drug revenue for branded and generics totaled $21.6 billion and generic drugs accounted for 18.6% of prescriptions. By 2009, total prescription drug revenue had soared to $300 billion and generic drugs accounted for 75% of prescriptions.

C. ANDA Patent Certifications Provide Incentives to Generic Manufacturers to Challenge Patents

20. To obtain FDA approval of an ANDA, a generic manufacturer must certify that the generic drug addressed in its ANDA will not infringe any patents listed in the Orange Book. Under Hatch-Waxman, a generic manufacturer's ANDA must contain one of four certifications:

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dosing regimen, or indication. These non-AB-rated generics are not bioequivalent to the innovator product. *See* 21 C.F.R. § 314.54 (year of edition cited).

i. that no patent for the brand name drug has been filed with the FDA (a "Paragraph I certification");

ii. that the patent for the brand name drug has expired (a "Paragraph II certification");

iii. that the patent for the brand name drug will expire on a particular date and the generic company does not seek to market its generic product before that date (a "Paragraph III certification"); or

iv. that the patent for the brand name drug is invalid or will not be infringed by the generic manufacturer's proposed product (a "Paragraph IV certification").

21. If a generic manufacturer files a Paragraph IV certification, a brand name manufacturer has the ability to delay FDA approval of an ANDA simply by suing the ANDA applicant for patent infringement. If the brand name manufacturer initiates a patent infringement action against the generic filer within 45 days of receiving notification of the Paragraph IV certification, the FDA may not grant final approval to the ANDA until the earlier of (a) the passage of 30 months, or (b) the issuance of a decision by a court that the patent is invalid or not infringed by the generic manufacturer's ANDA. The FDA may grant "tentative approval," but cannot authorize the generic manufacturer to go to market.

22. As an incentive to spur generic companies to seek approval of generic alternatives to branded drugs, the first generic manufacturer to file an ANDA containing a Paragraph IV certification gets a period of protection from competition with other generic versions of the drug. For Paragraph IV certifications made prior to December 2003, the first generic applicant is entitled to 180 days of market exclusivity, *i.e.*, the first approved generic is the only available generic for at least six months.

23. Brand name manufacturers are incentivized to list patents in the Orange Book due to the high profit margins on brand name drugs and the erosion of those profits due to generic

entry. Brand name manufacturers are motivated to sue any generic competitor that files an ANDA with Paragraph IV certifications even if the generic competitor's product does not actually infringe the listed patent(s) and/or the patent is invalid and unenforceable. As a result, final FDA approval of an ANDA can be delayed for up to 30 months.

D. Generic Competition Serves the Public Interest.

24. Typically, AB-rated generics cost much less than their branded counterparts. Over time, as more generic equivalents compete with each other, prices decline even further. Since passage of the Hatch-Waxman Amendments, every state has adopted substitution laws that either require or permit pharmacies to substitute AB-rated generic equivalents for branded prescriptions (unless the prescribing physician has specifically ordered otherwise).

25. Every link in the prescription drug chain has an incentive to choose less-expensive generic equivalents. As a result of federal reimbursement rules and the industry pricing structure, pharmacies typically earn a higher markup on generics. Private health insurers similarly offer direct incentives to pharmacies to substitute cheaper generic products for more expensive branded ones. Health insurers are contractually obligated to pay for the bulk of their members' prescriptions, whether filled with branded or generic drugs, so health insurers offer their members lower copays for generic drugs in order to encourage the use of generics. Members also face the threat of increased health insurance premiums if branded prescription drug costs continue to rise.

26. Once a generic equivalent hits the market, the generic quickly causes sales of the branded drug to diminish. More than 90% of prescriptions for drugs that are available in both branded and generic forms are filled with a generic. The speed with which generic drugs take over the market appears to be increasing: in a sample of drugs losing patent protection between 1991 and 1993, generics on average held a 44% market share after one year; by 2010, IMS industry data reflects that, on average, generics capture 80% of the brand's sales within 6 months.

27. Because of the strong potential for generics to diminish sales of brand name drugs, brand name manufacturers are motivated to extend their market dominance for as long as possible.

E. Genuine Citizen Petitions to the FDA Serve a Public Good; Fraudulent Petitions Delay Generic Competition.

28. Section 505(j) of the FDCA provides that a person may file a petition, known as a "citizen petition," with the FDA requesting, among other things, that the agency take, or refrain from taking, any form of administrative action.

29. Citizen petitions provide an opportunity for individuals to express their genuine concerns about safety, scientific, or legal issues regarding a product before, or after, its market entry.

30. The FDA regulations concerning citizen petitions require the FDA Commissioner to respond to each citizen petition within 180 days of receipt. That response may be to approve the request in whole or in part, or deny the request. The Commissioner also may provide a tentative response with an estimate on a time for a full response.

31. Reviewing and responding to citizen petitions is a resource-intensive and time-consuming task because the FDA must research the petition's subject, examine scientific, medical, legal and sometimes economic issues, and coordinate internal agency review and clearance of the petition response. These activities strain the FDA's limited resources.

32. The FDA's longtime practice had been to withhold ANDA approval until after its consideration of, and response to, a citizen petition regarding that ANDA was complete. The former director of the Office of Generic Drugs in the FDA's Center for Drug Evaluation and Research ("CDER") acknowledged that it was "very rare that petitions present new issues that CDER has not fully considered, but the Agency must nevertheless assure itself of that fact by reviewing the citizen petitions."

33. Citizen petitions by rival companies rarely raise legitimate concerns about the safety or efficacy of generic products, and instead request that the FDA require additional, unnecessary, and costly requirements on a generic competitor. Brand name companies hope that these additional testing requirements will delay competitive generic entry into the market places, and thereby preserve their product monopolies after the end of a statutorily-granted patent or FDA exclusively periods ends. Brand name companies frequently file these citizen petitions on the eve of FDA approval of an ANDA for competing AB-rated generic drugs, even though the petitioner could have made the same arguments months, or even years, earlier. This results in delay of approval of a pending ANDA for several months or longer while the FDA evaluates the merits of the citizen petition. Meanwhile, valid competition is foreclosed, and consumers, such as Plaintiff, bear the costs. Since 2005, the FDA has acknowledged citizen petition abuse as it had "seen several examples of citizen petitions that appear designed not to raise timely concerns with respect to the legality or scientific soundness of approving a drug application but rather to try and delay the approval simply by compelling the agency to take the time to consider arguments raised in the petition whatever their merits and regardless of whether or not the petitioner could have made those very arguments months and months before."

34. The abuse of the citizen petition process in part helped lead Congress to enact the FDA Amendments Act of 2007, 21 U.S.C. 355(q) (the "FDAAA"), which added new section 505(q) to the FDCA providing that the FDA shall not delay approval of a pending ANDA because of a citizen petition unless the FDA determines that a delay is necessary to protect the public health. The FDAAA does not, however, provide the FDA with additional resources that might allow it to more promptly respond to citizen petitions. A brand-name drug manufacturer can still use the citizen petition process to delay generic approval while the FDA considers whether the company's

citizen petition implicates issues of public health, regardless of whether the petition has any real merit.

35. The FDA continues to have serious concerns about the abuse of the citizen petition process for anticompetitive purposes and noted in a 2012 report to Congress that "based on the petitions that FDA has seen to date . . . the agency is concerned that section 505(q) may not be discouraging the submissions of petitions that do not raise valid scientific issues and are intended primarily to delay the approval of competitive drug products."

F. Patent Trial and Appeal Board Inter Partes Review Proceedings Provide Fast Determinations on Patent Validity

36. The Leahy-Smith America Invents Act of 2011 ("AIA") created inter partes review ("IPR"), a post-grant proceeding where a petitioner can challenge patent validity before the Patent Trial and Appeal Board ("PTAB"). IPR is a trial-like proceeding conducted at the PTAB, and is intended to provide an avenue for faster determinations on patent validity than through the district courts. Anyone, other than the patent holder, may request an IPR for an issued patent. In an IPR, the PTAB reviews the patentability of one or more claims in a patent only on a ground raised under 35 U.S.C. §§ 102 (novelty) or 103 (obviousness), and only on the basis of prior art consisting of patents or printed publications.

37. To initiate an IPR, the petition must meet the threshold standard of demonstrating "a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a). In other words, the petition to challenge the validity of a patent will be granted if the petitioner shows, through patents or printed publications, that it is "reasonably likely" that at least one challenged claim is invalid for novelty or obviousness reasons.

38. If an IPR proceeding is instituted and not dismissed, the PTAB will issue a final determination on the patent claims within one year.

39. IPR petitions comprise approximately 92% of total AIA petitions before the PTAB.[2] According to one study, approximately 76.32% of instituted claims result in cancelled claims in IPRs, while 20.14% of instituted claims survive IPR.[3]

V. FACTS

40. The plaintiff alleges the facts in the complaint on the basis (a) of personal knowledge as to those facts relating to it, (b) of investigation by counsel based on publicly available facts drawn from FDA and PTO records, litigation files, SEC filings and statements, and other publicly available records, and (c) the proceedings and decisions of this Court, including the ruling on the patent invalidity of the second wave patents in *Allergan, Inc. v. Teva Pharmaceuticals USA, Inc.* ("*Allergan*").[4]

41. Allergan manufactures and sells a dry-eye medication called Restasis. Since its launch in 2003, Allergan's Restasis has become one of the most important dry eye treatments. In fact, it is one of the most commonly prescribed drugs in the world: last year, Restasis reached nearly $1.5 billion in U.S. sales alone.

42. Restasis is an emulsion treatment (a mixture of two or more liquids that are normally unblendable) consisting of 0.05% by weight cyclosporin A[5] (an immunosuppressant),

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[2] *See* Patent Trial and Appeal Board Statistics (March 31, 2017), available at https://www.uspto.gov/sites/default/files/documents/AIA%20Statistics_March2017.pdf.

[3] *See* Timothy P. McAnulty and Daniel F. Klodowski, "AIA Outcomes at the USPTO Patent Trial and Appeal Board," CIPA Journal (June 2016).

[4] No. 2:15-cv-01455-WCB, 2017 WL 4803941 (E.D. Tex. Oct. 16, 2017).

[5] Cyclosporin A is sometimes spelled "cyclosporine" to distinguish it from other cyclosporins, such as cyclosporins B, C, and D. *Id.* at *3 n.3.The generic name for Restasis is cyclosporine

1.25% by weight castor oil, 0.05% by weight pemulen (an emulsion stabilizer), 1% by weight polysorbate 80 (an emulsifier), and 2.2% by weight glycerin. Allergan has branded this emulsion as Restasis, with cyclosporin A acting as the active ingredient.

43. Dry eye is a progressive condition that occurs when the human eye fails to produce enough tears or enough of the natural oils that impede tear evaporation. The condition causes patients discomfort, including a sandy or gritty feeling in the eye, blurred vision, and infection. If left untreated, it can sometimes lead to serious complications that threaten vision.

44. Ophthalmologists used a number of different tests and indicators to diagnose and measure dry eye. One commonly used diagnostic device is the Schirmer tear test, which entails placing a strip of filter paper under a patient's eyelid and measuring how many millimeters of the paper are wetted by the patient's tears within five minutes. The Schirmer tear test can be conducted with or without an ocular anesthetic. But conducting the test with anesthesia is considered a better test of the tearing that occurs continuously and naturally in the absence of any unusual stimulation. Conducting the test without anesthesia provides a measure of normal tearing plus "reflexive tearing," i.e., tearing that results in response to an irritant in the eye, such as a piece of filter paper under the eyelid. Importantly, there is significant variability in Schirmer tear test scores depending on the circumstances in which the test is conducted. Thus, the comparison of those scores typically poses a challenge for researchers.

45. Another commonly used diagnostic device is corneal and conjunctival staining, in which a stain is placed in the eye. Particular stains can be used that highlight dry areas on the surface of the eye or rough areas of the cornea, thus allowing ophthalmologists to measure the

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ophthalmic emulsion, 0.05%. This complaint refers to cyclosporin A as "cyclosporine" or "cyclosporin A."

degree of a patient's dry eye problem. This test also allows doctors to identify areas of the cornea that have been damaged by dry-eye conditions.

46. Other measures of dry eye include subjective indicators such as a sandy or gritty feeling in the eye, ocular dryness, photophobia, or a burning or stinging sensation. Overall levels of patient discomfort are also often gaged.

A. The 1990s: Allergan develops Restasis.

47. Allergan has found its niche within the pharmaceutical industry as a developer and manufacturer of ophthalmic drugs. One of the company's long-term projects was the development of an effective dry eye treatment. Towards this end, Allergan began testing combinations of castor oil and cyclosporin A in the early 1990s.

1. The Kaswan Patent

48. But before Allergan could begin this research in earnest, it had to acquire an important patent in this space from another pharmaceutical company, Sandoz. U.S. Patent No. 4,839,342 (the "Kaswan patent") disclosed cyclosporine's potential as a dry eye treatment. The patent claimed methods for enhancing or restoring lacrimal gland tearing through topical administration of cyclosporine to the eye in a pharmaceutically acceptable vehicle. The Kaswan patent also recited use of castor oil, among other compounds, as a pharmaceutically acceptable vehicle for delivery of cyclosporine to the eye.

49. In 1993, Allergan bought a license from Sandoz to use that patent, and commenced testing various formulations of cyclosporine.

50. One of the major challenges Allergan's scientists confronted was how to deliver cyclosporine to the eye. Cyclosporine is highly insoluble in water, and therefore very difficult to deliver in an aqueous solution. Developing an appropriate vehicle for the delivery of cyclosporine to the eye posed a significant hurdle.

51. Allergan eventually solved this problem by developing an oil-in-water emulsion that contained a small amount of castor oil (a hydrophobic vehicle that would dissolve the cyclosporine), together with an emulsifier and an emulsion stabilizer in water.

52. Allergan disclosed this achievement in two patents.

2. The Ding I Patent

53. On December 12, 1995, the PTO issued U.S. Patent No. 5,474,979 ("the Ding I patent"). This patent disclosed Allergan's cyclosporine / castor oil emulsion. More specifically, the patent claimed a pharmaceutical emulsion consisting of between about 0.05% and about 0.4% by weight cyclosporine; between about 0.625% and about 0.4% by weight castor oil; about 1% by weight polysorbate 80 (an emulsifier); about 0.05% by weight Pemulen (an emulsion stabilizer); and about 2.2% by weight glycerin. The Ding I patent described this emulsion as having a "high comfort level and low irritation potential"[6] as well as long-term stability.[7]

54. The patent also specified four examples of the claimed invention. The table below, which appeared as Example 1 of the Ding I patent,[8] disclosed multiple potential formulations for the castor oil and cyclosporine emulsion. For example, the formulation labeled D consisted of 0.1% cyclosporine and 1.25% castor oil, while E contained 0.05% cyclosporine and 0.625% castor oil.

[6] Ding I patent col. 1, ll. 8-9.

[7] *Id.* col. 3, ll. 58-63.

[8] *Id.* col. 4, ll. 31-43.

Example 1

	A	B	C	D	E
Cyclosporin A	0.40%	0.20%	0.20%	0.10%	0.05%
Castor oil	5.00%	5.00%	2.50%	1.25%	0.625%
Polysorbate 80	1.00%	1.00%	1.00%	1.00%	1.00%
Pemulen ®	0.05%	0.05%	0.05%	0.05%	0.05%
Glycerine	2.20%	2.20%	2.20%	2.20%	2.20%
NaOH	qs	qs	qs	qs	qs
Purified water	qs	qs	qs	qs	qs
pH	7.2–7.6	7.2–7.6	7.2–7.6	7.2–7.6	7.2–7.6

55. The Ding I patent further stated that the preferred weight ratio of cyclosporine to castor oil was below 0.16 (which is the maximum solubility level of cyclosporine in castor oil) and the more preferred weight ratio of cyclosporine to castor oil was between 0.02 and 0.12.

56. The formula Allergan eventually settled on and sold as Restasis falls within the range of values disclosed and claimed in the Ding I patent.

3. The Ding II Patent

57. On November 9, 1999, Allergan obtained a second patent related to ocular emulsions. U.S. Patent No. 5,981,607 ("the Ding II patent") claimed a method of alleviating dry-eye-related symptoms by topically applying an emulsion of a higher fatty acid glyceride, polysorbate 80, and an emulsion-stabilizing amount of Pemulen in water to the ocular tissue.[9] The Ding II patent further claimed an emulsion where the higher fatty acid glyceride was castor oil, in an amount between about 0.625% by weight and about 5% by weight.[10]

4. The Phase 2 Trial and Stevenson Paper

58. In the late 1990s, after Allergan filed for these patents, Allergan began clinical trials of several combinations of cyclosporine and castor oil. In the first clinical trial (the "Phase

[9] Ding II patent, col. 9, ll. 2-7.

[10] *Id.* col. 10, ll. 4-10.

2" study), Allergan tested four of the combinations listed in Example 1 of the Ding I patent: 0.05% cyclosporine with 0.625% castor oil; 0.1% cyclosporine with 1.25% castor oil; 0.2% cyclosporine with 2.5% castor oil; and 0.4% cyclosporine with 5% castor oil (Examples 1A, 1C, 1D, and 1E in the Ding I patent) for three months. A number of different tests were used to measure patient improvement including rose bengal staining and Schirmer tear tests *without anesthetic*. The study also measured subjective indicators of dry eye, such as ocular itching, burning, blurred vision, foreign body sensation, dryness, photophobia, and soreness or pain.

59. As is typically the case, the goal of the Phase 2 study was only to determine the safety and efficacy of particular doses of the drug so that researchers could settle on an appropriate dosage level for subsequent large-scale Phase 3 clinical studies. The Phase 3 studies would then be used to support Allergan's application to the FDA to market the drug.

60. A 2000 journal article by Dara Stevenson, Joseph Tauber, and Brenda L. Reis ("Stevenson") reported the results of Allergan's Phase 2 trial.[11] The Stevenson paper reported that a total of 88 patients with moderate-to-severe dry eye disease completed the Phase 2 trial: 16 in a castor-oil-only control, group; 17 in the 0.05% group; 18 in the 0.1% cyclosporine group; 20 in the 0.2% cyclosporine group; and 17 in the 0.4% cyclosporine group.[12] Stevenson did not disclose the percentage of castor oil in each formulation, but it disclosed that the amount of castor oil increased relative to the cyclosporine present so that all of the cyclosporine in each formulation was dissolved.[13]

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[11] Dara Stevenson, Joseph Tauber, & Brenda L. Reis, *Efficacy and Safety of Cyclosporine A Ophthalmic Emulsion in the Treatment of Moderate-to-severe Dry Eye Disease: A Dose-Ranging, Randomized Trial*, 107 Ophthalmology 967 (May 2000).

[12] *Id.* at 970.

[13] *Id.* at 968.

61. The paper concluded that all tested concentrations significantly improved the ocular signs and symptoms of moderate-to-severe dry eye disease and mitigated dry eye disease's effects on vision-related functioning. And all outperformed the castor-oil-only control group. Furthermore, the paper reported that all tested concentrations were safe and effective in increasing tearing in certain patient groups.

62. Critically, Stevenson concluded that there was *no clear dose-response relationship* between the 0.05% cyclosporine formulation and formulations containing greater amounts of cyclosporine. In other words, the drug's efficacy did not increase when more than 0.05% cyclosporine A (the active ingredient) was present. Put another way, the Stevenson paper concluded that the 0.1% cyclosporine formulation *did not perform* better than the 0.05% cyclosporine formulation.

63. The study did note, however, that the 0.1% cyclosporine formulation "produced the most consistent improvement in objective and subjective endpoints (such as superficial punctate keratitis and rose bengal staining)," while the 0.05% cyclosporine formulation "produced the most consistent improvements in patient symptoms (such as sandy/gritty feeling and ocular dryness)."[14] Therefore, Stevenson suggested "that subsequent clinical studies should focus on the cyclosporin[e] 0.05% and 0.1% formulations."[15]

5. The Phase 3 Trials and Sall Paper

64. Allergan's Phase 3 trials did just that: the trials compared the efficacy and safety of a 0.05% cyclosporine / 1.25% castor oil formulation to that of a castor-oil-only vehicle and the safety and efficacy of a 0.1% cyclosporine / 1.25% castor oil formulation to that of a castor-oil-

[14] *Id.* at 974.

[15] *Id.*

only vehicle.

65. Allergan conducted the two separate Phase 3 trials simultaneously: 235 patients were given a formulation containing 0.05% cyclosporin / 1.25% castor oil; 218 patients were given another containing 0.1% cyclosporin / 1.25% castor oil; and 218 were given a castor-oil-only control vehicle for 6 months. Thus, the Phase 3 trial (671 patients total) contained nearly *eight times* the number of patients in the Phase 2 trial (88 patients total). Like the Phase 2 study, these Phase 3 trials measured patient improvement through a number of different tests and indicators including corneal staining and Schirmer tear tests. However, unlike in the Phase 2 study, the Schirmer tear tests in the Phase 3 trials were conducted *with* and *without* an anesthetic. The trials also measured subjective indicators of ocular discomfort, such as stinging/burning, itching, sandiness/grittiness, blurred vision, dryness, light sensitivity, pain or soreness. These tests and symptoms were checked at one, three, four, and six months.

66. A 2000 published paper by Kenneth Sall, Dara Stevenson, and others reported the results of the Phase 3 trials ("Sall").[16]

67. This paper concluded that both cyclosporine formulations (0.1% and 0.05% cyclosporine) were more effective than the castor-oil-only vehicle in treating dry eye (though the castor oil vehicle also produced significant improvements over the patient's baseline, suggesting that it was a contributing factor to the formulations' success). Once again, the paper reported *no dose-response effect* between the 0.05% cyclosporine / 1.25% castor oil formulation and the 0.1% cyclosporine / 1.25% castor oil formulation. In other words, the Sall paper found that the 0.05% cyclosporine formulation *was not superior* to the 0.1% formulation, and vice versa.

[16] Kenneth Sall, et al., *Two Multicenter, Randomized Studies of the Efficacy and Safety of Cyclosporine Ophthalmic Emulsion in Moderate to Severe Dry Eye Disease*, 107 Ophthalmology 631 (2000).

68. The Sall paper emphasized that the purpose of the two Phase 3 trials was to compare the efficacy and safety of the 0.05% and 0.1% cyclosporine formulations to the control. In other words, the purpose of these trials was *not* to compare the 0.05% cyclosporine formulation to the 0.1% cyclosporine formulation directly, but rather to compare those formulations to the *castor oil only vehicle*.

69. At three months, the paper reported a statistically significant difference between the 0.05% cyclosporine group and the patient's baseline score (scores without treatment) on the categorized Schirmer tear test with anesthesia. At six months, both the 0.05% cyclosporine group and the 0.1% cyclosporine group showed statistically significant improvements compared to the patients' baseline on that test. Sall also reported that at month 3 there was a statistically significant difference between the 0.05% cyclosporine group and the castor-oil only control, but not a statistically significant difference between the 0.05% cyclosporine group and the 0.1% group.

6. FDA Approves Restasis; Allergan Immediately Attempts to Block Potential Generic Entry via its First Sham Citizen Petition

70. In February 1999, following the Phase 3 trials, Allergan filed a NDA with the FDA seeking authorization to market the 0.05% cyclosporine formulation tested in those trials. The proposed commercial product – Restasis – would contain all of the components of that formulation, including 1.25% castor oil.

71. In December 2002, the FDA approved the application, authorizing the sale of Restasis as "a topical immunomodulator indicated to increase tear production in patients whose tear production is presumed to be suppressed due to ocular inflammation associated with

keratoconjunctivitis sicca."[17]

72. In 2003, following approval, Allergan launched Restasis.

73. Shortly thereafter, Allergan made its first attempt to block generic Restasis from coming to market. Allergan filed a citizen petition with the FDA (Docket No. 2003P-0275) on June 13, 2003. In asking the FDA to reclassify cyclosporine from an antibiotic to a non-antibiotic drug, Allergan sought to have Restasis fall under the provisions of the Hatch Waxman act; antibiotics were excluded from the Hatch Waxman provisions for Orange Book patent listing and market exclusivities. In the alternative, Allergan asked that Restasis be granted three-year exclusivity and patent listing benefits under Hatch Waxman Act. Allergan argued that it "detrimentally relied on FDA's representations that [cyclosporine] and Restasis are not antibiotic drugs" in its development of the product for over 10 years, and in discussions with FDA. (Citizen Petition '0275 at 42, citing Allergan petition at 11-14). Finally, Allergan argued for a stay of approval of all generic forms of Restasis or if the petition is denied, 20 days to seek judicial stay.

74. The FDA responded on December 18, 2003, denying all of Allergan's requests. FDA described the history of the drug approval process, the legislative and statutory history of antibiotic approvals, and FDA's definition of antibiotic, and that cyclosporine is properly classified as antibiotic.

75. As to Allergan's "detrimental reliance" on FDA's actions, the agency remarked that Allergan never raised the issue of the classification of Restasis as an antibiotic with the FDA during the approval process. "Moreover, the classification of Restasis as an antibiotic drug should not have come as a surprise to Allergan. Allergan cannot claim that it did not know that all products containing cyclosporine have been regulated as antibiotic drugs. *Id.* FDA then

[17] *Allergan*, 2017 WL 4803941, at *10.

detailed the evidence of 13 approvals and documents discussing cyclosporine as an antibiotic prior to the time of Restasis approval.

76. Finally, to Allergan's statement that had it "known ahead of time that Restasis would be without any protections against generic entry, it likely would not have risked the substantial investment required to develop the product." *Id*. at 43 (citing Allergan petition at 12), FDA stated that Allergan is a sophisticated user of the drug approval process, and should be aware of how the determinations of exclusivity are made. The request for a stay was also denied as being "contrary to the public interest of having generic competition." *Id*. at 47.[18]

77. This citizen petition began Allergan's pattern and practice to stall generic entry, and its first use of the citizen petition process to delay generic Restasis approvals through the regulatory process. Allergan was a sophisticated player in the pharmaceutical market, with employees experienced in the drug approval process. It was or should have been aware at the time it developed Restasis that as an antibiotic, the drug product was not eligible for Hatch Waxman exclusivities or patent listings, as evidenced by the detailed information on antibiotic approvals and drug approvals generally Allergan cited in its petition. This first sham petition set the stage for the later sham citizen petitions Allergan submitted to FDA in its attempts to block generic competition.

B. The 2000s: Allergan procures the second wave patents.

78. For over a decade following the approval of Restasis, Allergan filed a variety of patent applications attempting to claim combinations of castor oil and cyclosporine. Allergan did this notwithstanding the Ding I & II patents, which claimed the range of

[18] Patents for antibiotics were made listable with the October 8, 2008 enactment of "Incentives For The Development Of, And Access To, Certain Antibiotics" part of the "QI Program Supplemental Funding Act of 2008" (Pub. L. No. 110-379).

formulations within which Restasis fell, and the Stevenson and Sall studies, which demonstrated there were no statistical differences in outcomes between the 0.05% and 0.1% cyclosporine formulations.

1. September 2003 and August 2004: Allergan files new patent applications covering Restasis.

79. On September 15, 2003, Allergan filed a provisional application (a placeholder): U.S. Patent Application No. 60/503,137 ("the '137 application). Allergan followed up this application a year later, on August 27, 2004, with application No. 10/927,857 ("the '857 application"). These applications were directed to methods and compositions for treating dry eye by administering an emulsion composed of a hydrophobic component (such as castor oil) and a cyclosporine component of less than 0.1% by weight. The '857 application further specified that the weight ratio of the cyclosporine component to the hydrophobic component should be less than 0.08. Dependent claims in the application recited a hydrophobic component, such as castor oil, in an amount greater than 0.625% of the composition. Thus, the application claimed subject matter encompassed by the Ding I patent.

2. January 2007: The PTO examiner rejects Allergan's '857 application.

80. On January 17, 2007, the PTO examiner rejected the '857 application. After Allergan withdrew a number of the application's claims, the examiner concluded that the remaining claims would have been obvious in light of Ding I. As the examiner explained, it was obvious to try a 0.05% cyclosporine / 1.25% castor oil formulation because that ratio fell within the limit range of ratios claim in the Ding I patent.

81. In response, Allergan amended the '857 application to include a claim to an emulsion of water, 1.25% castor oil, and 0.05% cyclosporine, i.e., Restasis. But the PTO examiner again rejected the application.

82. Allergan then appealed the rejection. While the appeal was pending, Allergan filed a continuation of the '857 application: U.S. Patent Application No. 11/897,177 ("the '177 application"). The '177 application was similar to the '857 application, but added claims regarding new conditions that the method was asserted to treat, including corneal graft rejection.

3. June 2009: Allergan concedes that the claims of its '857 application would have been obvious in light of Ding I.

83. Nonetheless, in June 2009, Allergan completely reversed course and conceded in writing that the '857 application was obvious in light of Ding I. And Allergan made a similar concession with respect to the '177 patent. Specifically, Allergan wrote to the PTO:

> The applicants concede that it would have been obvious to modify examples 1A-1E of the Ding reference to arrive at [the Restasis formula]. *The differences are insignificant*. One need only use the cyclosporin concentration of Example 1E (0.05%), the castor oil concentration of Example 1D (1.250%), and the remaining ingredients of those examples. As the examiner correctly observes, one of ordinary skill in the art "would readily envisage" such a composition, especially in view of Example 1B: having selected 0.05% as the concentration of cyclosporin, Example 1B (wherein the ratio of cyclosporin to castor oil is 0.04) teaches that the concentration of castor oil should be 1.25% (0.05% / 1.25% = 0.04). The applicants concede that in making this selection (0.05% cyclosporin and 1.25% castor oil) there would have been a reasonable expectation of success; the differences between Examples 1A-1E and Composition II are too small to believe otherwise.
>
> The formulation of Composition II is squarely within the teaching of the Ding reference, and the Office should disregard any statements by the applicants suggesting otherwise, whether in this application or in co-pending application no. 11/897,177.[19]

84. Thus, Allergan admitted that the "differences" between Restasis and the Ding I examples "[were] insignificant"; that in "select[ing]" the Restasis formula (0.05% cyclosporine

[19] *Id.* at *9 (quoting Allergan's concession to the PTO).

and 1.25% castor oil), "there would have been a reasonable expectation of success"; the "differences between" the Ding I patent examples and the Restasis formula "are too small to believe otherwise"; and the composition claims advanced by the '857 and '177 applications were "squarely within the teaching of the Ding reference."[20] In its concession, Allergan also included a table demonstrating *exactly how* Restasis would be "readily envisage[d]" based on Examples 1B, 1D, and 1E of the Ding I patent[21]:

Compositions of the Ding reference compared to Composition II of the present application

	Ding *et al.* Example 1B	Ding *et al.* Example 1D	Ding *et al.* Example 1E	Composition II
Cyclosporin A	0.20 %	0.10 %	**0.05 %**	**0.05 %**
Castor Oil	5.00 %	**1.250 %**	0.625 %	**1.250 %**
Polysorbate 80	1.00 %	1.00 %	1.00 %	1.00 %
Pemulin®	0.05 %	0.05 %	0.05 %	0.05 %
Glycerine	2.20 %	2.20 %	2.20 %	2.20 %
NaOH	qs	Qs	qs	qs
Purified water	qs	Qs	qs	qs
pH	7.2-7.6	7.2-7.6	7.2-7.6	7.2-7.6
cyclosporin : castor oil	**0.04**	0.08	0.08	**0.04**

85. Allergan then withdrew its pending appeal and canceled all of the '857 application's pending claims.

86. Nonetheless, it added a new claim to the application: a composition in which the amount of cyclosporine was less than 0.05% and the ratio of cyclosporine to castor oil was less than 0.04.

87. On September 1, 2009, the examiner rejected this new claim as obvious in light of

[20] *Id.*

[21] *Id.* at *19.

Ding I.

88. By April 2011, the PTO issued a notice of abandonment on the '857 application to Allergan. (On December 21, 2013, the '177 application issued as U.S. Patent No. 8,618,064, but this patent was narrowly limited to use of a cyclosporine formulation to treat corneal graft rejection).

89. Thus, from the launch of Restasis in 2003 until mid-2013, the only patent protecting Restasis was the Ding I patent. That patent was set to expire in May of 2014.

4. June 2013: The FDA issues a draft guidance for generic cyclosporine ophthalmic emulsions.

90. In June 2013, with the Ding I patent's expiration date on the horizon, the FDA issued a draft guidance containing recommendations to applicants seeking to gain approval of ANDAs for generic versions of Restasis. Such guidance was consistent with long-standing practice of the FDA as a science-driven agency.

91. Neither draft nor final guidance are required for the FDA to approve an ANDA. The FDA often approves ANDAs in situations where it has issued no guidance at all, or where it has issued guidance only in draft form. But the posting of a draft guidance, and seeking comment on it, shows the FDA is well underway in evaluating the circumstances under which it would approve an ANDA for a particular product. As a result, the June 2013 issuance of the draft guidance for cyclosporine emulsion ophthalmic products was a clear signal to the drug industry that the FDA was actively considering the circumstances under which it would accept for filing, and approve, ANDAs for generic Restasis.

92. Under the June 2013 draft guidance, the FDA recommended the use of specified in vitro testing where the quality and quantity of the proposed ingredients of the generic were the same as that used for Restasis. (In vivo testing was recommended where they were not, and in

other circumstances).

93. Because in vitro testing is often far less costly, time-consuming, and invasive than in vivo testing, posting of the draft guidance in June 2013 also signaled that would-be competitors to Allergan's Restasis brand product might well be in the position to gain ANDA approvals of cyclosporine ophthalmic emulsion, 0.05% products by May of 2014, i.e., upon expiration of the Ding I patent.

94. To qualify for the in vitro option for cyclosporine emulsion products pursuant to 21 CFR § 320.24(b)(6) (under which "any other approach deemed adequate by FDA to measure bioavailability or establish bioequivalence" may be acceptable for determining the bioavailability or bioequivalence of a drug product), all of the following criteria must be met: (i) the test and reference listed drug ingredients are qualitatively and quantitatively the same; (ii) acceptable comparative physicochemical characterization of the test and reference listed drug formulations must be performed on seven separate, specified dimensions, and; (iii) acceptable comparative in vitro drug release rate tests of cyclosporine from the test and reference listed drug formulations.

95. An in vivo bioequivalence study with clinical endpoint is requested for any generic cyclosporine ophthalmic emulsion, 0.05% that has a different inactive ingredient, a difference of more than 5% in the amount of any inactive ingredient compared to that of the reference listed drug, or unacceptable data from in vitro comparative studies. The FDA pointed out that a bioequivalence study with clinical endpoints for cyclosporine ophthalmic emulsions may not be feasible or reliable due to the modest efficacy demonstrated by Restasis. For that reason, the draft guidance recommended that any sponsor electing to conduct such a study submit the study protocol for review.

96. The FDA solicited public comments on this draft guidance.

97. On August 17, 2013 – and despite the exacting and comprehensive approach that the FDA was taking to proposed cyclosporine ophthalmic emulsion products (that for in vitro testing to be adequate, both active and inactive ingredients be the same, and that there be similarity along 7 physiochemical characteristics) – Allergan submitted a lengthy comment to the agency asserting that the FDA could not approve any Restasis ANDA relying on in vitro testing. It told the FDA it should "replace the Draft Guidance with a revised guidance document that explains in vivo comparative clinical studies are required to demonstrate that a proposed generic product is bioequivalent to" Restasis.[22]

98. Allergan caused its radical position to be echoed by comments submitted by several doctors who, unbeknownst to the FDA, had received payments from Allergan for "consulting" services and "travel and lodging," generally and specifically relating to Restasis. For example, Dr. Stephen Pflugfelder, who submitted a comment on August 8, 2013[23] critical of an in vitro bioequivalence option, received roughly $70,000 in payments from Allergan in 2013.[24] Similarly, on September 3, 2013,[25] Dr. Jai G. Parekh posted a comment raising similar concern with the bioequivalence issue; neither he nor Allergan disclosed to the FDA that Allergan paid him nearly $9,000 in 2013 for his services relating to Restasis and other drugs.[26]

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[22] Letter from Richard Spivey, Sr. Vice-President Global Regulatory Affairs, Allergan, Inc., to the Food & Drug Admin. at 1, Docket No. FDA-2007-D-0369, 0.05% (Aug. 17, 2013).

[23] Letter from Stephen Pflugfelder to the Food & Drug Admin., Docket No. FDA-2007-D-0369-0236 (Aug. 9, 2013).

[24] *See* ProPublica, Dollars for Docs: Stephen C. Pflugfelder, https://projects.propublica.org/docdollars/doctors/pid/356009 (last visited Jan. 11, 2018).

[25] Letter from Jai G. Parekh to the Food & Drug Admin., Docket No. FDA-2007-D-0369 (Aug. 16, 2013).

[26] *See* ProPublica, Dollars for Docs: Jai G. Parekh, https://projects.propublica.org/docdollars/doctors/pid/37605 (last visited Jan. 11, 2018).

Dr. Marc Bloomenstein's comment, posted August 15, 2013,[27] raising similar alarm, failed to disclose payments from Allergan in 2013, amounting to $47,665, all but two of which explicitly relate to Restasis.[28]

5. August 2013: Allergan renews its gambit to obtain secondary patents.

99. On the heels of the FDA's draft guidance and with the Ding I patent's expiration looming, Allergan decided to renew its attempt to obtain secondary patents on the Restasis formulation.

100. In August 2013, Allergan filed six continuation applications derived directly or indirectly from the '177 application. These six additional applications were identical to the previous failed applications with only minor variations in a few: Allergan added four sentences to three of the applications' specifications that further described the role of cyclosporine as an immunosuppressant and the conditions that may be treated with cyclosporine.

101. As the *Allergan* court would later explain in its decision invalidating the patents that resulted from these applications, "[t]he new applications were intended to protect the Restasis composition and the method of using that composition in treating dry eye and [keratoconjunctivitis sicca] after the expiration of the Ding I patent in 2014."[29]

102. But before prosecuting these new applications, Allergan had to claw back its prior concession that the Restasis formulation was obvious in light of Ding I.

103. Under patent law, "where there is a range disclosed in the prior art, and the

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[27] Letter from Marc Bloomenstein to the Food & Drug Admin., Docket No. FDA-2007-D-0369-0239 (Aug. 15, 2013).

[28] *See* ProPublica, Dollars for Docs: Marc Bloomenstein, https://projects.propublica.org/docdollars/doctors/pid/25861 (last visited Jan. 11, 2018).

[29] *Allergan*, 2017 WL 4803941, at *10.

claimed invention falls within that range, a relevant inquiry is whether there would have been a motivation to select the claimed composition from the prior art ranges."[30] In such circumstances, to overcome a rejection for obviousness, a patent application must "come forward with evidence that (1) the prior art taught away from the claimed invention; (2) there were new and unexpected results relative to the prior art; or (3) there are other pertinent secondary considerations."[31]

104. This was exactly the situation Allergan found itself: a prior art patent disclosed a finite range, and prior studies showed that there was motivation to select the Restasis formulation from that range. Therefore, to escape the inevitable conclusion of obviousness, Allergan would have to show some sort of an "unexpected result."

105. To do so, in its August 2013 PTO filings, Allergan represented that "since [the concession was filed], the Applicants have collected evidence that supports the patentability of the pending claims." Crucially, Allergan told the PTO that its reasserted claims were patentable because Restasis's particular formulation – 0.05% cyclosporine / 1.25% castor oil – performed far better than would be expected as compared to the 0.1% cyclosporine / 1.25 % castor oil formulation. More specifically, Allergan claimed that the Phase 2 trial revealed that the 0.1% formulation outperformed the 0.05% cyclosporine formulation, while the Phase 3 study revealed the 0.05% formulation outperformed the 0.1% formulation. Thus, the results of the Phase 3 trial were unexpected in light of the Phase 2 results.

106. The representations were false.

107. The data – published 13 years earlier in the Stevenson and Sall papers – bore out none of Allergan's claims. The Stevenson and Sall papers both concluded that there was *no*

[30] *Allergan, Inc. v. Sandoz Inc.*, 796 F.3d 1293, 1304-05 (Fed. Cir. 2015).

[31] *Id.* at 1305 (quoting *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013)).

dose-response effect between the 0.05% cyclosporine and the 0.1% cyclosporine castor oil formulations. *Neither* trial showed a scientifically significant difference between the two formulations: the Phase 2 trial did not suggest the 0.1% cyclosporine formulation was superior, and the Phase 3 study did not suggest the 0.05% cyclosporine formulation was more effective.

108. The *Allergan* court later explained this reality in painstaking detail in its opinion invalidating the second wave patents.

109. As the Court summarized, the Phase 2 data presented in Stevenson reported results on 14 efficacy measures: rose bengal staining (temporal), rose bengal staining (nasal), corneal staining, Schirmer scores without anesthesia, tear film debris, tear break-up time, artificial tear use, OSDI score, stinging or burning, itching, sandy or gritty feeling, dryness, light sensitivity, and pain. And these efficacy measures were observed at five different points in time: week 4, week 8, week 12, post-treatment week 2, and post-treatment week 4.

110. Accurate analysis of this data revealed that the 0.05% and 0.1% formulations were statistically significant for only *2* of the *58 measured categories*. As the *Allergan* court concluded, "those two individual points of statistical significance, out of all of the tested categories and time points, are [in]sufficient to demonstrate a real difference in effectiveness between the 0.05% and 0.1% cyclosporin[e] formulations."[32]

111. As for the Phase 3 study, 21 efficacy measures were observed: corneal staining, temporal conjunctival staining, nasal conjunctival staining, the sum of temporal and nasal conjunctival staining, the sum of corneal and conjunctival staining, raw Schirmer scores with anesthesia, categorized Schirmer scores with anesthesia, raw Schirmer scores without anesthesia, categorized Schirmer scores without anesthesia, OSDI score, facial expression subjective rating

[32] *Allergan*, 2017 WL 4803941, at *26.

scale, stinging or burning, itching, sandy or gritty feeling, blurred vision, dryness, light sensitivity, pain, global evaluation of response to treatment, treatment success, and artificial tear use. Those efficacy markers were measured at four points: 1 month, 3 months, 4 months, and 6 months.

112. For this trial, at least 71 of the 80 total data points showed no statistically significant difference between the two cyclosporine formulations. Thus, as the *Allergan* court concluded, "the overwhelming bulk of the data (71 out of 80 data points) supports an inference that the two cyclosporin[e] formulations performed similarly, and an even larger portion of the data (76 out of 80 data points) supports an inference that the 0.05% cyclosporin[e] formulation did not perform better than the 0.1% cyclosporin[e] formulation."[33]

113. The Court summarized, "there is a dearth of evidence showing any real difference between the efficacy of the 0.05% and 0.1% cyclosporin[e] formulations in Phase 2, as presented in Stevenson, and in Phase 3, as presented in Sall. A person of skill reviewing those papers would come to the conclusion that neither formulation was more effective than the other in Phase 2. That person of skill would reach the same conclusion for Phase 3."[34]

114. In short, the Phase 2 study did not suggest the 0.1% cyclosporine formulation was superior to the 0.05% cyclosporine formulation, and the Phase 3 study did not suggest that that the 0.05% formulation was superior to the 0.1% formulation in Phase 3. The basis for Allergan's claim to patentability – that the Phase 2 trial favored the 0.1% formulation, and then the Phase 3 trial *unexpectedly* favored the 0.05% formulation – is not born out by the results of either the Phase 2 trial or the Phase 3 trial.

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[33] *Id.* at *33.

[34] *Id.* at *36.

115. Allergan was aware of this reality and even admitted it to the FDA when Allergan initially presented the results of the Phase 3 trial to the agency: "Upon presenting the Phase 3 results to the FDA, Allergan explained that the performance of the 0.05% cyclosporine formulation was not surprising because the lack of a dose response – i.e., the similar level of efficacy for formulations containing 0.05% or more of cyclosporine – was observed earlier in Phase 2."[35] In fact, Allergan had initially decided to test the 0.05% formulation in the Phase 3 study because the FDA had suggested that formulation given the lack of dose response above 0.05% cyclosporin in Phase 2: *"[b]ecause we did not show a clear differentiation in effect among the doses [in Phase 2]*, it was recommended [by the FDA] that we include a lower concentration [0.05% cyclosporin] in one Phase 3 clinical trial to confirm that we have chosen the lowest effective concentration."[36]

116. The *Allergan* court further pointed out that Allergan's attempt to contort the Phase 2 trial into a study of the comparative efficacy of the 0.05% and 0.1% cyclosporine formulations, in-and-of-itself, constitutes a fundamental flaw. As explained earlier, it was *the Phase 3 studies*, not the *Phase 2 study*, that were intended to aid selection between the 0.05% and 0.1% cyclosporin formulations. With only 88 participants, the Phase 2 study was not designed to reveal statistically significant differences between the various tested formulations. As the *Allergan* court observed, "[t]he small size of the Phase 2 study makes it difficult to draw reliable conclusions about the relative efficacy of different formulations."[37] Instead, the 671-person Phase 3 study was designed to accomplish that goal. Accordingly, Allergan's effort to convert

[35] *Id.* at *29.

[36] *Id.* at *30 (alterations in original) (quoting Allergan's acknowledgement to the FDA).

[37] *Id.* at *23.

the Phase 2 study into an assessment of the relative efficacy of the 0.05% and 0.1% cyclosporine formulations in order to contrast it with the Phase 3 study "lies at the heart of the problem with its 'unexpected results' analysis."[38] The Phase 2 study was never meant to compare the two different formulations. Therefore, Allergan should never have relied on this study to assert the 0.1% formulation performed better than the 0.05% formulation in the first place.

117. Because Ding I disclosed the narrow range of formulations within which Restasis falls, Allergan could only escape a conclusion of obviousness by showing unexpected results. But the Phase 2 testing was neither designed to show, nor suggested, that the 0.1% formulation was superior to the 0.05% formulation. And the Phase 3 study similarly failed to show a dose response or preferential efficacy between dosages. Furthermore, the two studies, Phases 2 and 3, could not properly be compared to each other. Allergan's own conclusion – 13 years earlier – that there was nothing unexpected in the Phase 3 results, was the truth. Allergan's representations to the contrary were false.

118. In October 17, 2013, the patent examiner rejected all Allergan's second wave patent applications, once again relying heavily on the Ding I patent.

6. October 23, 2013: Allergan submits a highly misleading declaration – the Schiffman declaration – to overcome the examiner's rejection.

119. On October 23, 2013, Allergan submitted a declaration from Dr. Rhett M. Schiffman claiming that test results showed the Restasis formulation (0.05% cyclosporine / 1.25% castor oil) produced new and unexpected results relative to the 0.05% cyclosporine / 0.625% castor oil and 0.1% cyclosporine / 1.25% castor oil formulations recited in the Ding I patent. Specifically, Allergan relied on Dr. Schiffman's declaration to claim:

> [S]urprisingly, the claimed formulation [of 0.05% cyclosporin and

[38] *Id.* at *23.

> 1.25% castor oil] demonstrated an 8-fold increase in relative efficacy for the Schirmer Tear Test score in the first study of Allergan's Phase 3 trials compared to the relative efficacy for the 0.05% by weight cyclosporin A/0.625% by weight castor oil formulation discussed in Example 1E of Ding, tested in Phase 2 trials. . . . [T]he claimed formulations also demonstrated a 4-fold improvement in the relative efficacy for the Schirmer Tear Test score for the second study of Phase 3 and a 4-fold increase in relative efficacy for decrease in corneal staining score in both of the Phase 3 studies compared to the 0.05% by weight cyclosporin A/0.625% by weight castor oil formulation tested in Phase 2 and disclosed in Ding (Ding 1E). *This was clearly a very surprising and unexpected result*.[39]

In plain English, Dr. Schiffman declared that the Schirmer tear test scores for the 0.05% cyclosporine / 1.25% castor oil formulation (Restasis) in the first Phase 3 trial revealed that 0.05% cyclosporine formulation resulted in an *8-fold* increase in efficacy over the 0.05% cyclosporine / 0.625% castor oil formulation tested in the Phase 2 trial (and disclosed in Ding I). Dr. Schiffman further claimed, based on the Schirmer tear test scores in the second Phase 3 trial and the corneal staining tests results in both Phase 3 trials, that the Restasis formulation showed a *4-fold* improvement over the 0.05% cyclosporine / 0.625% castor oil formulation tested in Phase 2. According to Allergan and Dr. Schiffman, these results were surprising because the Phase 2 trial had suggested the 0.1% cyclosporine formulation was superior to the 0.05% formulation.

120. Dr. Schiffman's representations to the PTO were false and misleading. As the *Allergan* court explained in its invalidity decision, Dr. Schiffman's declaration is unreliable as a basis for patentability for four principal reasons.

- *First*, Dr. Schiffman relied on statistically insignificant data to draw his conclusions and then *concealed* the data's statistical insignificance from the PTO. Scientists do not rely on statistically insignificant data for an obvious reason: such

[39] *Id.* at * 11 (second alteration in original) (quoting Allergan's representation of Dr. Schiffman's declaration to the PTO).

data is unreliable.

- *Second*, Dr. Schiffman did not compare like test results; he compared the results of Schirmer tear tests performed with anesthetic to Schirmer tear tests conducted *without* the anesthetic. Such a comparison has no scientific value.

- *Third*, Dr. Schiffman used data manipulation techniques to amplify small differences between test results. Such contortions gave the PTO the false impression that Dr. Schiffman had actually obtained significant results.

- *Fourth*, Dr. Schiffman failed to tell the PTO that he lifted the data he presented *from the Sall paper*. Thus, his data was not only over a decade old, it was also *prior art* to the second wave Restasis patents. As such, this data could not support Allergan's patent application.

In short, as the *Allergan* court concluded, "Dr. Schiffman's declaration and the accompanying exhibits[] painted a false picture."[40]

a) Dr. Schiffman relied on statistically insignificant data.

121. First, Dr. Schiffman improperly relied on statistically insignificant data to draw his desired conclusions: he disregarded the error bars and p-values associated with the data he lifted from the Sall study.

122. A p-value is the probability that a given outcome is result of random chance. P-values are critical because they tell scientists whether a given result is statistically significant, i.e., whether it should be taken seriously. P-values are calculated through head-to-head comparisons (pair-wise comparison) of the mean values of two groups of data. For example, one could compare (a) the mean improvement in Schirmer scores over a three-month period for patients treated with the 0.05% cyclosporine formulation to (b) the mean improvement in Schirmer scores over a three-month period for patients treated with the 0.1% cyclosporine formulation. A pair-wise comparison of those two means could be used to derive a p-value

[40] *Id.* at *39.

indicating whether there was a real difference between the average improvement in Schirmer scores for the 0.05% cyclosporine formulation and the average improvement in Schirmer scores for the 0.1% cyclosporine formulation. A small p-value, such as p = 0.05, would indicate that the observed difference between those averages is meaningful, in that the difference is the result of random chance only 5% of the time. A large p-value, such as p = 0.30, would mean that the observed difference is the result of random chance 30% of the time. Scientists typically regard a p-value of 0.05 as the cut off for statistical significance: data with p-values much higher than 0.05 are disregarded.

123. Dr. Schiffman omitted the p-values associated with the raw data he took from the Sall paper in an attempt to pass off statistically insignificant differences between the 0.05% and 0.1% cyclosporine formulations as important. In reality, and as the *Allergan* court explained, "none of the pair-wise comparisons between the two cyclosporin formulations for corneal staining and Schirmer scores in the Phase 2 study or the pooled Phase 3 studies demonstrated statistical significance at any time point."[41]

124. In fact, many of the p-values for the pair-wise comparisons were very high. For example, the p-values for a comparison of Schirmer scores without anesthesia in Phase 2 – the only p-value regarding Schirmer scores that were calculated in Phase 2 – was 0.651 at week 4, 0.790 at week 8, and 0.834 at week 12. No scientist would take seriously the differences in the raw data results between the two cyclosporine formulations given these extremely high p-values. These p-value essentially communicated that any measured difference in the efficacy of the two formulations was more likely-than-not a result of random chance. Interpreted properly, the data

[41] *Id.* at *37.

Schiffman told the PTO showed "unexpected results" actually showed no significant difference in efficacy between the 0.05% and 0.1% formulation.[42]

125. When Dr. Schiffman was questioned about this misrepresentation during the second wave patents' validity trial, all he could muster was: "I think we're making – in a sense, we're trying to make too much out of statistical techniques when the bigger picture is – is – is really sufficient, I think."[43]

126. As the *Allergan* court explained, "statistical significance is an important component in establishing the reliability of the clinical data for a person of skill in the art."[44] Indeed, the lack of statistical significance between the two formulations is what kept Stevenson, et al., from concluding, in their peer-reviewed paper, that the 0.1% formulation did best or that the 0.1% formulation did better than the 0.05%. As Allergan's expert conceded at trial, "one point of peer review is to make sure that authors don't overstate their case."[45]

b) Dr. Schiffman did not compare like test results.

127. Second, in addition to Dr. Schiffman's deliberate concealment of the p-values associated with the data he presented, Dr. Schiffman also did not disclose to the PTO that the Phase 2 and 3 test results he compared to demonstrate that the 0.05% cyclosporine formulation performed better than the 0.1% formulation in Phase 3 *came from two distinct types of tests*. In his declaration, Dr. Schiffman compared test scores from Schirmer test performed *without* anesthesia in Phase 2 to Schirmer test scores performed with anesthesia in Phase 3. Schirmer tear testing *with* anesthesia measures the baseline level of tearing; Schirmer tear testing *without*

[42] *Id.* at *64.

[43] *Id.* at *28.

[44] *Id.* at *29.

[45] *Id.*

anesthesia measures baseline tearing plus some level of reflective tearing based on the patient's reaction to the filter paper used to give the test. Therefore, Schirmer tear tests *without* anesthesia will inherently measure more tearing than Schirmer tear testing *with* anesthesia. Thus, comparing a Schirmer tear test *without* anesthesia to one *with* anesthesia is akin to comparing the marathon time of a runner who ran an easy course in good conditions to the time of a runner on a harder course with worse conditions to determine the faster runner. In reality, the Schirmer tear test results *without* anesthesia in Phase 3 showed a trend similar to the Schirmer tear test results *without* anesthesia in Phase 2 in that both favored the 0.1% cyclosporine formulation, not the 0.05% cyclosporine formulation. But neither Schiffman nor Allergan disclosed this fact to the PTO.

128. Instead, Schiffman's declaration only evaluated the Schirmer tear test results with anesthesia in Phase 3, which significantly favored the 0.05% cyclosporine formulation. Relying on his skewed comparison, Schiffman told the PTO that 0.05% cyclosporine formulation (the Restasis formulation) "demonstrated an *8-fold* increase in relative efficacy" as compared to the 0.1% formulation. Only through his manipulation of the data – comparing the results of two different types of dry eye test – was Dr. Schiffman able to suggest that the 0.05% cyclosporine / 1.25% castor oil formulation tested in Phase 3 was 8 times more effective than the 0.05% cyclosporine / 0.625% castor oil or 0.1% cyclosporine / 1.25% castor oil castor oil formulations in Phase 2. A scientifically sound comparison of the data showed no such increase in efficacy.

c) Dr. Schiffman used a "ratio of ratios" data analysis technique that exaggerated the differences in test results.

129. Third, the method that Dr. Schiffman used to calculate the differences in efficacy between the formulations overstated the differences between them.

130. Dr. Schiffman's statement that the Restasis formulation tested in Phase 3 led to an

"8-fold improvement" over the 0.05% cyclosporine / 0.625% castor oil formulation tested in Phase 2 was based on a "ratio-of-ratios" calculation: Dr. Schiffman first compared patients' median change from baseline in corneal staining scores at week 12 for the 0.05% and 0.1% cyclosporine formulations in the Phase 2 study. He calculated that the change from baseline for the 0.05% formulation was approximately one-quarter as large as the change from baseline for the 0.1% formulation. He then conducted a similar comparison of the 0.05% and 0.1% formulations in Phase 2 with regard to the median change in Schirmer scores without anesthesia, again concluding that the change from baseline was approximately one-quarter as large for the 0.05% formulation as for the 0.1% formulation. He then performed the same calculation for corneal staining and Schirmer scores without anesthesia for each of the two Phase 3 studies. The median improvement in the corneal staining scores for both Phase 3 studies was roughly the same, as was the median improvement in the Schirmer scores for the second Phase 3 study. However, Dr. Schiffman calculated the improvement in Schirmer scores for the first Phase 3 study as being approximately twice as great for the 0.05% formulation as for the 0.1% formulation.

131. As the *Allergan* court explained, Dr. Schiffman's calculations were "misleading" because it is based on a calculation *of the ratio of the differences* between the improvement from baseline for the 0.05% and 0.1% cyclosporine formulations for the two studies. Even though the actual difference in the median improvement in Schirmer scores for the 0.05% and 0.1% formulations in Phase 2 was only about 1.5 millimeters, the use of ratios to represent the difference suggested that the difference was 4:1 in favor of the 0.1% formulation. Similarly, although the difference between the 0.05% and 0.1% formulations in the first study of Phase 3 was not dramatic, depicting that difference as a ratio of the differences from baseline tended to

exaggerate its significance by suggesting that the 0.05% formulation was twice as effective as the 0.1% formulation. Dr. Schiffman then calculated *the ratio of the two ratios* (2/.25), deriving a ratio of 8:1, which again exaggerated the difference between the 0.05% and 0.1% formulations as measured in the Phase 2 and Phase 3, suggesting that the 0.05% cyclosporine / 1.25% castor oil formulation performed eight times as well in the first study of Phase 3 as the 0.05% cyclosporine / 0.625% castor oil formulation in the Phase 2 study.

132. The *Allergan* court provided a useful example that helps show why such a ratio-of-ratios calculation is misleading:

> Suppose that the baseline value on some metric was 10.00. Suppose further that the Phase 2 data showed an improvement to 10.01 for the 0.05% cyclosporin/0.625% castor oil formulation and an improvement to 10.03 for the 0.1% cyclosporin/1.25% castor oil formulation. Suppose further that the Phase 3 data showed an improvement to 10.01 for the 0.1% cyclosporin/1.25% castor oil formulation and an improvement to 10.03 for the 0.05%/1.25% castor oil cyclosporin formulation. Finally, suppose that statistical analysis showed that none of those small variations in performance were statistically significant, but were likely just the product of experimental noise. Nonetheless, the ratio of the measured improvements in the metric for the 0.1% cyclosporin/1.25% castor oil formulation to the 0.05% cyclosporin/0.625% castor oil formulation in Phase 2 would [be] 3:1, and the ratio of the measured improvements in the metric for the 0.1% cyclosporin/1.25% castor oil formulation to the 0.05% cyclosporin/1.25% castor oil formulation in Phase 3 would be 1:3. The ratio of those two ratios would be 9:1. Any conclusion from the "ratio of ratios" that there was a nine-fold relative improvement in performance by the 0.05% formulation in Phase 3 over Phase 2 would obviously be spurious.[46]

133. Dr. Schiffman's calculations also ignored the fact that the Phase 2 study was quite small and that the difference in the raw numbers for the 0.05% cyclosporine formulation compared to the 0.1% formulation on some metrics, including Schirmer scores, were not

[46] *Id.* at *38.

statistically significant.

134. Furthermore, Dr. Schiffman selected only two categories of tests to compare the performance of the 0.05% and 0.1% cyclosporine formulations. In other test categories for the Phase 2 studies, the 0.05% formulation did better than the 0.1% formulation. As the Eastern District of Texas explained, "[i]n order to make an appropriate assessment of the Phase 2 study data, it is necessary to view that data globally, not to select the data points that are most favorable to a particular desired outcome."[47]

135. Thus, Dr. Schiffman again manipulated the raw data to create the illusion that 0.05% (Restasis) formulation was far more effective in the Phase 3 study than it was in the Phase 2 study. Put another way, Dr. Schiffman convinced the PTO that Allergan had achieved an unexpected result through a highly misleading interpretation of the data.

d) Dr. Schiffman concealed the fact that the data he relied on was over a decade old; prior art to the second wave patents.

136. Fourth and finally, Dr. Schiffman's declaration failed to inform the PTO that the data he relied on in his declaration had been published *thirteen years before* the second wave patent applications and *three years before* their priority dates. Thus, as the Eastern District of Texas noted, a "major flaw in Dr. Schiffman's presentation was [] that, *even if* the results reported in Sall would have been surprising at the time the Phase 3 trials were conducted, those results *were publicly known before the invention*."[48] In other words, the results published in the Sall paper were prior art to the second wave patents applications and could not serve as a basis for their patentability.

137. Had Allergan made clear to the PTO examiner that Dr. Schiffman's declaration

[47] *Id.* at *39.

[48] *Id.* (emphasis added).

was based on data lifted from prior art known to Allergan for over a decade, as Allergan's duty of disclosure, candor, and good faith required, the PTO examiner would have rejected all of the second wave applications for the same reasons it had denied every other prior application: the claims presented were obvious in light of the prior art.

138. Based on these serious problems, the Allergan court would later conclude that Dr. Schiffman's "presentation to the PTO substantially overstated the difference between the clinical results obtained with the Ding formulations and the clinical results obtained with the Restasis formulation."[49] As the court explained:

> To the extent that Allergan relies on Dr. Schiffman's presentation to the PTO . . . and the fact that the examiner concluded that unexpected results had been shown . . . the Court finds that the presentation made to the examiner in 2013, including Dr. Schiffman's declaration and the accompanying exhibits, *painted a false picture* of the comparative results of the Phase 2 and Phase 3 trials. In addition, that presentation *created the misleading perception* that the evidence that Dr. Schiffman relied on to show unexpected results was not known at the time of the invention.[50]

139. The *Allergan* court would also later conclude that "the examiner's finding of unexpected results . . . was [based] on evidence that did *not accurately depict* the comparative results of the two Allergan studies and that was, in any event, disclosed in the prior art."[51] In other words, but for Allergan submission of Dr. Schiffman's highly misleading declaration, the PTO would never have issued the patent.

8. November 21, 2013: The Schiffman declaration convinces the PTO examiner to allow the second wave patents.

140. The Schiffman declaration had its intended effect. On November 21, 2013, the

[49] *Id.* at *64.

[50] *Id.* at *39.

[51] *Id.* (emphasis added).

examiner reversed course and allowed the second wave patent claims. Trusting Dr. Schiffman and Allergan not to misrepresent the truth – as their duties of candor and good faith required – the PTO examiner did not uncover the manipulations, false comparisons, and misrepresentations that the Schiffman declaration contained.

141. Instead, the examiner concluded that the Schiffman declaration,

> Is deemed sufficient to overcome the rejection . . . because: After carefully reviewing exhibits A-F, which compare the instantly claimed embodiment having 0.05%/1.25% castor oil with embodiments E and F of Ding et al. (0.10%/1.25% [cyclosporin/]castor oil and 0.05%/.625% cyclosporin/castor oil ratios), Examiner is persuaded that, *unexpectedly, the claimed formulation (0.05% cyclosporin A/1.25% castor oil) demonstrated an 8-fold increase in relative efficacy* for the Schirmer Tear Test score in the first study of Phase 3 trials compared to the relative efficacy for the 0.05% by weight cyclosporin A/0.625% by weight castor oil formulation disclosed in Example 1E of Ding, tested in Phase 2 trials. . . .
>
> Exhibits E and F also illustrate that the claimed formulations comprising 0.05% cyclosporin A/1.25% castor oil also *demonstrated a 4-fold improvement in the relative efficacy* for the Schirmer Tear Test score for the second study of Phase 3 and *a 4-fold increase in relative efficacy* for decrease in corneal staining score in both of the Phase 3 studies compared to the 0.05% by weight cyclosporin A/0.625% by weight castor oil formulation tested in Phase 2 and disclosed in Ding (Ding 1E).[52]

142. Thus, the examiner allowed the second wave Restasis patents *based on* Dr. Schiffman declaration. He believed Allergan's representation that the Restasis formulation demonstrated 8- and 4-fold increases in efficacy over the 0.05% cyclosporine / 0.625% castor oil formulation tested in the Phase 2 trial.

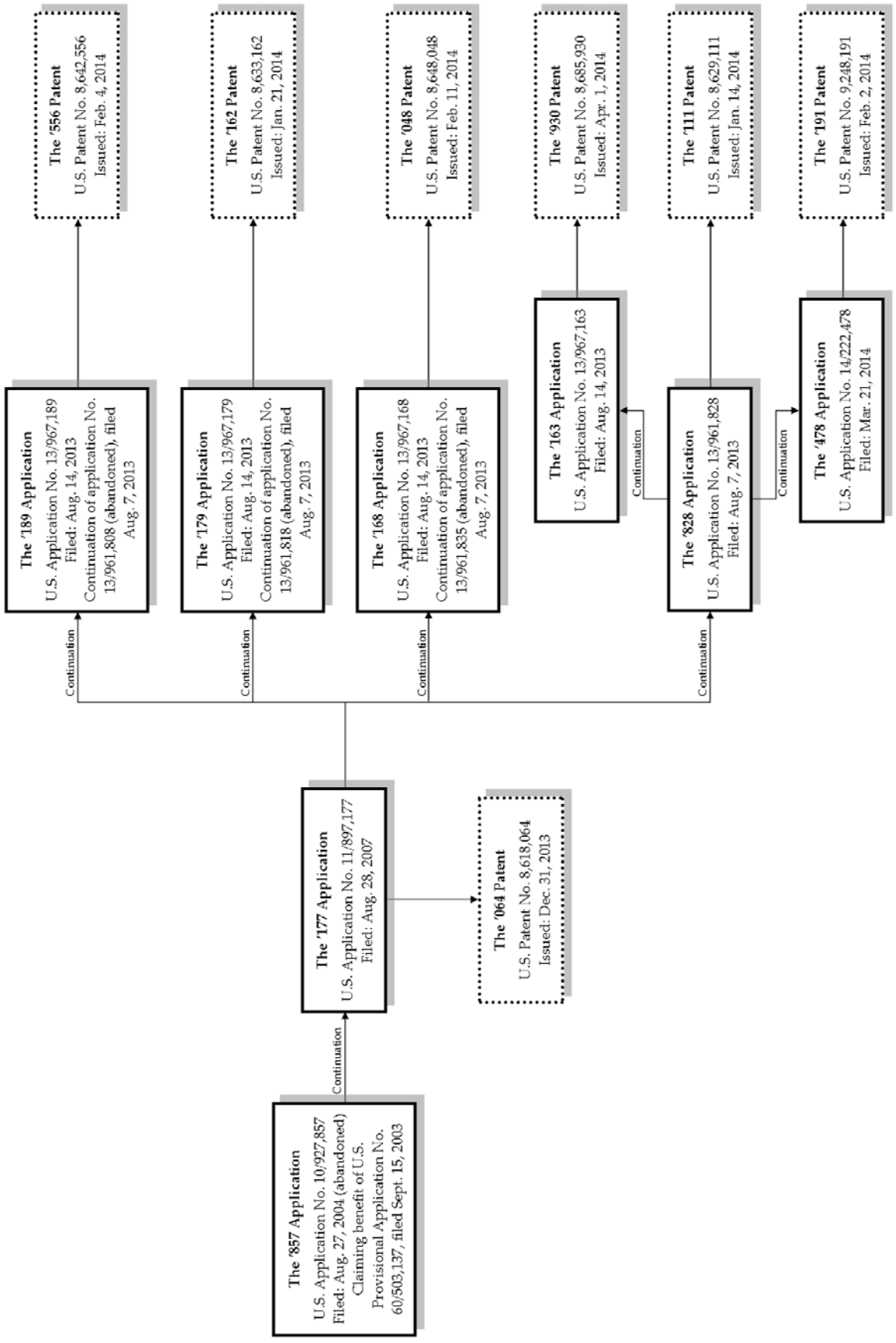
143. But for this declaration, the examiner would not have issued the new Restasis patents. Indeed, during the trial of the second wave patents' validity, Dr. Schiffman conceded

[52] *Id.* at *11 (alterations in original except for the first).

that his declaration was instrumental in persuading the PTO to grant the second wave applications.[53]

144. In January through April 2014, five of the applications issued as second wave patents, U.S. Patent Nos. 8,629,111 ("the '111 patent"), 8,633,162 ("the '162 patent"), 8,642,556 ("the '556 patent"), 8,648,048 ("the '048 patent"), and 8,685,930 ("the '930 patent"). (A sixth would issue in February 2016 as U.S. Patent No. 9,248,191 ("the '191 patent")). The figure below summarizes this patents and their lineage.

[53] *Id.* at *20.


The '857 Application
U.S. Application No. 10/927,857
Filed: Aug. 27, 2004 (abandoned)
Claiming benefit of U.S. Provisional Application No. 60/503,137, filed Sept. 15, 2003
Continuation
The '177 Application
U.S. Application No. 11/897,177
Filed: Aug. 28, 2007
The '064 Patent
U.S. Patent No. 8,618,064
Issued: Dec. 31, 2013
Continuation
Continuation
Continuation
Continuation
The '189 Application
U.S. Application No. 13/967,189
Filed: Aug. 14, 2013
Continuation of application No. 13/961,808 (abandoned), filed Aug. 7, 2013
The '179 Application
U.S. Application No. 13/967,179
Filed: Aug. 14, 2013
Continuation of application No. 13/961,818 (abandoned), filed Aug. 7, 2013
The '168 Application
U.S. Application No. 13/967,168
Filed: Aug. 14, 2013
Continuation of application No. 13/961,835 (abandoned), filed Aug. 7, 2013
The '828 Application
U.S. Application No. 13/961,828
Filed: Aug. 7, 2013
Continuation
Continuation
The '556 Patent
U.S. Patent No. 8,642,556
Issued: Feb. 4, 2014
The '162 Patent
U.S. Patent No. 8,633,162
Issued: Jan. 21, 2014
The '048 Patent
U.S. Patent No. 8,648,048
Issued: Feb. 11, 2014
The '163 Application
U.S. Application No. 13/967,163
Filed: Aug. 14, 2013
The '930 Patent
U.S. Patent No. 8,685,930
Issued: Apr. 1, 2014
The '111 Patent
U.S. Patent No. 8,629,111
Issued: Jan. 14, 2014
The '478 Application
U.S. Application No. 14/222,478
Filed: Mar. 21, 2014
The '191 Patent
U.S. Patent No. 9,248,191
Issued: Feb. 2, 2014

145. In sum, Allergan procured the second wave patents through knowing, intentional fraud on the PTO.

C. Early 2014: Allergan wrongfully lists its second wave patents in the Orange Book.

146. After acquiring the second wave patents through fraud, Allergan employed another tactic to frustrate the introduction of generic Restasis products: it listed the second wave patents in the Orange Book.[54]

147. Throughout the first quarter of 2014, Allergan listed every second wave patent it obtained in the Orange Book:

Patent Number	Date of Orange Book listing
8,629,111 (the '111 patent)	January 14, 2014
8633,162 (the '162 patent)	January 22, 2014
8,642,556 (the '556 patent)	February 4, 2014
8,648,048 (the '048 patent)	February 11, 2014
8,685,930 (the '930 patent)	April 1, 2014

148. Each of Allergan's listings was wrongful.

149. Under the Hatch-Waxman Amendments, an NDA holder may only submit patent information to the FDA for listing in the Orange Book if the patent is one for which "a claim of patent infringement could reasonably be asserted if a person not licensed by the owner engaged in the manufacture, use, or sale of the drug."[55]

150. None of the second wave patents could "reasonably be asserted" against any applicants for generic Restasis. First, the second wave patents were knowingly acquired by fraud

[54] Drug manufacturers send their drug patent information to the FDA, which then lists the patents in the Orange Book. Therefore, the drug manufacturers themselves do not technically list the patents; the FDA does. However, for simplicity's sake, this complaint refers to such listings as drug manufacturer listings since the drug manufacturers are the actors that cause the patents to be listed.

[55] 21 U.S.C. § 355(b)(1), (c)(2).

on the PTO. Second, in the context of litigation to enforce any one of the second wave patents, no reasonable litigant would realistically expect to prevail on the merits of the litigation; the obviousness of the patents would be revealed, as would the falsity of Allergan's assertion of surprising comparative efficacy of the 0.05% formulation as of the priority date of September 2003. As a result, Allergan could not "reasonably" assert the second wave patents against a would-be generic competitor, as Allergan harbored no realistic ability to prevail on the merits of such litigation.

151. Allergan knew that the second wave patents were not eligible for listing in the Orange Book: it knew Dr. Schiffman's declaration constituted a misrepresentation. And it knew the second wave patents would be declared invalid as obvious given the absence of any true, surprising efficacy of the 0.05% formulation as of the priority date of September 2003.

152. By listing the second wave patents in the Orange Book, Allergan imposed additional regulatory requirements on existing and future Restasis ANDA applicants and created the potential for regulatory exclusivities that should not have existed.

153. First, all generic manufacturers that had submitted their ANDA applications *before* the second wave patents issued were required, as of the second wave patents' dates of issuance, to amend their ANDAs to include certifications with respect to each of those patents. Thus, after Allergan listed the second wave patents, the ANDA applicants were required to amend their ANDAs, either (1) by filing Paragraph III certifications (and thus waiting *many more years* for FDA approval) or (2) by filing Paragraph IV certifications to challenge those patents (thereby triggering Allergan's ability to bring immediate infringement litigation against them).

154. Second, by listing the second wave patents in the Orange Book, Allergan created

the space for it to argue, and the FDA to accept, that a 30-month stay of FDA approval for generic Restasis existed until at least 2018. Indeed, Allergan has taken this position in filings with the FDA and in filings with the *Allergan* court.

155. Third, by listing the second wave patents in the Orange Book, Allergan created the potential for one or more ANDA filers to argue that their Paragraph IV certification(s) to one or more of the second wave patents created a first-to-file exclusivity under which no other ANDA applicant could gain FDA approval for generic Restasis until 180 days after the first-to-file applicant entered the market. (At least two ANDA applicants, and Allergan itself, would later make this argument to the FDA).

156. Allergan knew when it listed the second wave patents in the Orange Book that those listings would impose unwarranted regulatory hurdles to ANDA approval, would likely allow Allergan to bring immediate suit against ANDA applicants, and would create the potential for unwarranted 180-day exclusivities. The purpose and effect of Allergan's second wave patent listings was to hinder and impede competition in the market for cyclosporine ophthalmic emulsion, 0.05%.

D. 2011 to 2014: About five manufacturers submitted generic Restasis ANDAs to the FDA.

157. Beginning in 2011, generic pharmaceutical manufacturers – including some of the biggest brand and generic pharmaceutical companies in the world – submitted ANDAs seeking FDA approval to market cyclosporine ophthalmic emulsion, 0.05%.

158. The manufacturers *known* to have filed ANDAs by early 2014 are listed below.

ANDA Applicant	ANDA Number	Date of ANDA Submission (if known)
Watson Pharmaceuticals, Inc.	203463	November 14, 2011

Teva Pharmaceuticals (now Actavis)	203880	Probably 2011, because of the first three digits (203)
Akorn Pharmaceuticals	204561	2012
Mylan Pharmaceuticals, Inc.	205894	None available.
InnoPharma, Inc.	206835	January 13, 2014

159. By the summer of 2015, the FDA had concluded that several of those ANDAs were substantially complete at the time they were first filed, many years earlier.

160. On July 28, 2015, the FDA issued a "Dear Applicant" letter, asking generic Restasis applicants to comment on issues concerning a 180-day exclusivity period for the first-filer of a Paragraph IV certification with respect to Restasis (i.e., whether any of the generic Restasis ANDA filers claimed this period of exclusivity for their generic Restasis product).[56]

161. Generic Restasis ANDA filers submitted responses to this FDA request, and these responses not only acknowledged generic Restasis ANDA filings, but also revealed their timing.

162. For example, the generic manufacturer InnoPharma, Inc. (a Pfizer subsidiary) has revealed that in mid-2015, the FDA deemed its ANDA for cyclosporine ophthalmic emulsion, 0.05% to be substantially complete as of the ANDA's original filing date of January 13, 2014.[57]

163. To be deemed substantially complete, an ANDA must contain sufficient data to plausibly support an FDA determination that the applied-for generic product is bioequivalent to the corresponding brand product, including drug release-rate data. The FDA's determination that InnoPharma's ANDA was substantially complete when filed on January 13, 2014 means that the

[56] Letter from T. Jetton to Cyclosporine Ophthalmic Emulsion ANDA Applicants, Docket No. FDA-2015-N-2713-0001 (July 28, 2015).

[57] Letter from InnoPharma Licensing LLC to the Food & Drug Admin. at 3, Docket No. FDA-2015-N-2713-0002 (Aug. 26, 2015).

FDA could have made an approval determination on that date.

164. Another example comes from the generic manufacturer, Akorn Pharmaceuticals. Akorn appears to have filed an ANDA in 2012 that the FDA subsequently determined (in mid-2015) to have been substantially complete at the time it was filed. Akorn has revealed that the FDA acknowledged its ANDA on June 30, 2015, and the acknowledgment appears to relate back to Akorn's original ANDA filing in 2012.[58] During a March 22, 2016 earnings call, Akorn CEO Raj Rai indicated that Akorn had submitted its ANDA for Restasis in 2012.[59]

165. In public correspondence with FDA, Apotex (another ANDA filer) stated that it interpreted the FDA's "Dear Applicant" letter to all cyclosporine ophthalmic emulsion, 0.05% ANDA filers to necessarily imply that, by January 14, 2014, one or more ANDAs for that drug had been submitted and deemed substantially complete.[60]

166. Allergan itself has stated, in its public correspondence with FDA, that it "understands" that "on or about July 9, 2015, FDA purportedly 'received' at least five ANDAs for review."[61] In that same public correspondence with FDA, Allergan stated that one of the ANDAs was submitted to FDA in 2013 and another was submitted as early as March of 2012.[62] Therefore, even Allergan agrees, given the FDA's definition for ANDA substantial completeness, that several ANDA filers had sufficient data to plausibly support FDA approval,

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[58] Letter from Akorn Pharmaceuticals to the Food & Drug Admin. at 2, Docket No. FDA-2015-N-2713-0026 (Sept. 28, 2015).

[59] Transcript of Akorn's (AKRX) CEO Raj Rai on Business Update and 2016 Guidance Conference Call.

[60] Letter from Apotex Inc. to the Food & Drug Admin. at 8, Docket No. FDA-2015-N-2713-0003 (Aug. 26, 2015).

[61] Letter from Allergan, Inc. to the Food & Drug Admin. at 3, Docket No. FDA-2015-N-2713-0030 (Sept. 28, 2015).

[62] *Id.*

including on the criterion of bioequivalence, as early as 2014.

E. January 2014: Allergan continues filing sham citizen petitions to the FDA.

1. January 2014: Allergan files another sham citizen petition.

167. Another prong of Allergan's multi-faceted scheme was to delay the FDA's approval of any Restasis ANDA by filing repetitive, sham petitions to the FDA. With Ding I set to expire in May 2014, Allergan began to file, in January 2014, what would become a series of petitions attacking the FDA's articulated scientific basis for approving generic Restasis ANDA applications.

168. Allergan knew that its comments to the draft guidance would not necessarily delay generic entry: the FDA is only required to *consider* these comments it; is not required – as it is with a citizen petition – to *respond* to individual requests to take (or refrain from taking) action.

169. Therefore, starting in January 2014, despite having already aired its criticism of the FDA's draft guidance during the August 2013 comment period, Allergan began inundating the FDA with submission after submission challenging the FDA's approach to determining the requirements for approving applications for generic cyclosporine ophthalmic emulsion products.[63]

170. Allergan claims that it submitted these citizen petitions to tell the FDA that

[63] *See* Letter from Allergan, Inc. to the Food & Drug Admin., Docket No. FDA-2014-P-0117 (Jan. 15, 2014) ("January 2014 Citizen Petition"); Letter from Damon Burrows, Vice President, Associate General Counsel, Allergan, Inc. to the Food & Drug Admin., Docket No. FDA-2014-P-0304 (Feb. 28, 2014) ("February 2014 Citizen Petition"); Letter from Dwight O. Moxie, Senior Attorney, Allergan Inc. to the Food & Drug Admin., Docket No. FDA-2015-P-0065 (Dec. 23, 2014) ("December 2014 Citizen Petition"); Letter from Thomas F. Poche, V.P. & Assist. General Counsel, Allergan, Inc. to the Food & Drug Admin. Docket No. FDA-2017-P-4745 (Aug. 4, 2017) ("August 2017 Citizen Petition").

"rushing prematurely to approve a proposed generic drug [not supported by in vivo clinical endpoint studies] poses a risk to patient health."[64] But Allergan's true goal was to delay the FDA's review of any Restasis ANDA. Allergan told investors that this tactic – saddling the agency with baseless, duplicative citizen petitions relating to the 2013 draft guidance – exemplified its response to "intense competition from generic drug manufacturers."[65]

171. On January 15, 2014, Allergan filed the first petition.

2. February 2014: Allergan amends its sham citizen petition.

172. On February 28, 2014, it filed another petition (the "February 2014 petition"), repeating the demands and arguments of the earlier one. This petition further added a required certification that acknowledged Allergan was aware of the existence of at least one specific instance of a generic company seeking to gain approval for a cyclosporine ophthalmic emulsion, 0.05% product. (Allergan later withdrew the earlier January petition, effectively allowing the February petition to replace it.)

173. The February 2014 petition largely parroted Allergan's August 2013 comments to the FDA's June 2013 guidance. The petition challenged the FDA's decision to allow generic manufactures to use in vitro studies to establish bioequivalence for cyclosporine emulsion ophthalmic drug products. It made six demands of the FDA, including that it "withdraw the Draft Cyclosporine . . . and make clear that, bioequivalence for a proposed generic drug referring to RESTASIS can be demonstrated only through comparative clinical studies with appropriate clinical endpoints"[66]; that it "not accept for filing, but instead reject as incomplete, any ANDA

[64] February 2014 Citizen Petition at 2.

[65] Allergan, Inc., Annual Report 12 (Form 10-K) (Feb. 18, 2015); *id.* at 48.

[66] February 2014 Citizen Petition at 6.

referencing Restasis that does not include data derived from at least one comparative clinical endpoint study"[67]; and that it "make clear that it will not approve any ANDA referencing Restasis based exclusively on in vitro assays unless and until clinical studies have been performed sufficiently to validate that those in vitro assays correlate to relevant in vivo bioavailability in humans."[68]

174. The February 2014 petition cited to the public comments Allergan's cadre of paid doctors submitted, ostensibly "draw[ing] from their clinical experience, criticizing the draft guidance's in vitro approach."[69]

175. Allergan ostensibly supplemented the petition on May 29, 2014 and then re-submitted it on October 31, 2014.

3. November 2014: The FDA rejects Allergan's sham petition.

176. On November 20, 2014, only months after Allergan filed the February 2014 petition and only weeks after its re-submission, the FDA denied all of Allergan's substantive demands.

177. The FDA provided a thorough explanation of the scientific determination on which its draft guidance was based.

178. *The scientific rationale for the in vitro testing option*. The purpose of a bioequivalence study is to determine whether any formulation differences between a proposed generic product and the reference listed drug cause the active ingredient to reach the site of action at a different rate or to a different extent. There are two key concerns when determining

[67] *Id.*

[68] *Id.*

[69] *Id.* at 4.

bioequivalence of a locally acting topical ophthalmic product: (1) Are the test and reference products formulated similarly such that the release characteristics are the same between the two products?, and (2) Will the ocular tissues uptake the same amount of the drug, or will differences in formulation and/or manufacturing of the two products affect absorption?

179. The FDA considers comparative clinical endpoint studies to be relatively insensitive at detecting the manufacturing and formulation variables, which have the greatest potential to affect the bioavailability of topical ophthalmic products.[70] In particular, in vivo clinical endpoint studies (studies in live subjects), which measure formulation differences indirectly rather than directly, may be limited by confounding variables such as differing severities of the disease and differences in the definition of the instrument used to measure efficacy, among other issues.

180. As a result, in recent years, the FDA researched alternative, in vitro bioequivalence testing methods that can be expected to detect meaningful differences in safety and therapeutic effect between generic and listed versions of non-systemically absorbed drugs (in vitro studies are studies conducted on blood, cells, or tissues in the laboratory setting).[71] The FDA has explored many different approaches to demonstrating bioequivalence for locally acting, non-systemically absorbed topical drug products, including approaches were the proposed generic products is both quantitatively and qualitatively the same as the reference listed drug.

181. When a generic product is quantitatively and qualitatively the same as the reference listed drug, the *only* differences it could have from the reference listed drug would be

[70] 21 C.F.R. § 320.24(b)(4) (stating that comparative clinical endpoint trials are "the least accurate, sensitive, and reproducible of the general approaches for measuring bioavailability or demonstrating bioequivalence").

[71] *See* 21 U.S.C. § 355(j)(8)(C).

in its physicochemical properties. Such differences can arise only from differences in the generic product's manufacturing process and formulation steps, and they can affect the generic product's drug release, absorption, and dose uniformity. When a generic product's physicochemical properties and drug release rate are similar to those of the reference listed drug, bioavailability is expected to be the same for both products.

182. In recent years, based upon its research findings and other available information, the FDA has recommended in vitro studies for demonstrating the bioequivalence of several locally acting products when the formulations of the products are the same, including for cyclosporine ophthalmic emulsion, 0.05%.[72] As such, the 2013 draft cyclosporine guidance includes a recommended in vitro option for proposed product formulations that are quantitatively and qualitatively the same as the reference listed drug and that also meet other specified criteria.

183. In considering the most accurate, sensitive, and reproducible methodology to demonstrate bioequivalence, the FDA has also reviewed the option of conducting a comparative clinical endpoint study to demonstrate bioequivalence of cyclosporine ophthalmic emulsions. It concluded that a comparative clinical endpoint study likely *would not be as reliable* at detecting differences in the formulation and manufacturing process of a proposed generic product when the reference listed drug shows only a modest clinical effect.

184. The FDA also concluded that such trials might present economic and logistical challenges for ANDA sponsors. Nevertheless, the 2013 draft cyclosporine guidance provides an

[72] Prior to its recommendations on cyclosporine ophthalmic emulsion, 0.05%, the FDA had recommended in vitro testing for other drug products. For example, the FDA recommended that generic applicants demonstrate bioequivalence via in vitro methods for the following drug products with formulations that were quantitatively and qualitatively the same as their reference listed drugs: vancomycin capsules, acyclovir ointment (topical dermatological product), and budesonide inhalation suspension (an inhalation suspension).

in vivo clinical endpoint option, and it recommends that a sponsor proposing to conduct such a trial first consult with the FDA by submitting the study protocol.

185. Based on these considerations, the FDA determined that, for cyclosporine ophthalmic emulsions, in vitro studies are likely more sensitive, accurate, and reproducible than comparative clinical endpoint studies. This determination is why the FDA's 2013 draft guidance includes an in vitro testing-only option.

186. *Comparing formulations that are quantitatively and qualitatively the same.* The FDA's recommended in vitro option for cyclosporine ophthalmic emulsion first provides that the proposed generic product formulation must be quantitatively and qualitatively the same as the reference listed drug (i.e., Restasis) because formulation differences (such as differences in the inactive ingredients) may alter cyclosporine bioavailability. The in vitro option is available *only* when it is confirmed that the identity and amount of each component in the proposed generic drug product is the same as that contained in the reference listed drug. For a proposed generic product that is not quantitatively and qualitatively the same as the reference listed drug, the in vivo study with a clinical endpoint would be the recommended option.

187. *Acceptable comparative physiochemical characterizations (Q3).* Of course, the FDA recognizes that even a generic product that is quantitatively and qualitatively the same as the reference listed drug can have clinically significant differences in its physiochemical profile owing to differences in the generic product's manufacturing and formulation processes. Accordingly, the FDA's 2013 draft guidance also recommends that an ANDA applicant seeking to establish bioequivalence solely through in vitro studies demonstrate that the proposed generic product has a physiochemical profile similar to that of the reference listed drug. It recommends that applicants perform comparative physiochemical characterization of globule size distribution,

viscosity, pH, zeta potential, osmolality, and surface tension.

188. *Acceptable comparative in vitro release rates*. Finally, the FDA's in vitro option recommends that an ANDA applicant confirm that the cyclosporine release rate of its proposed generic product is comparable to that of the reference listed drug. An in vitro release rate reflects the combined effect of several physical and chemical properties in both the drug substance and the drug product. Manufacturing methods and processes (e.g., heating, mixing, or cooling) may change the formulation's attributes, thereby affecting the rate of drug release and the drug's bioavailability. Confirmation that a proposed generic product has a comparable release rate to that of the reference listed drug can help ensure that the proposed generic product will deliver cyclosporine to the ocular tissues for absorption in a manner comparable to that of the reference listed drug.

189. In sum, the FDA has determined that a proposed cyclosporine ophthalmic emulsion formulation that meets the three recommended criteria – quantitative and qualitative sameness, physiochemical sameness, and an acceptable comparative in vitro release rate – should become available at the site of action at a rate and to an extent that is not significantly different than that of the reference listed drug. Thus, a proposed generic product that meets these three requirements has sufficiently demonstrated bioequivalence. Whether the data and information in a particular ANDA are sufficient to demonstrate bioequivalence is an issue the FDA determines during review of the specific ANDA.

190. The FDA rejected each of the scientific and legal positions Allergan asserted in its February 2014 petition.

191. With respect to the science, the FDA noted the exacting requirements of its in vitro option (as set forth in the 2013 draft guidance); namely, that an "in vitro option is available

only when it is confirmed that the identity and amount of each component in the proposed generic drug product is the same as that contained in the [reference listed drug]. For a proposed generic product that is not [quantitatively and qualitatively] the same as the [reference listed drug], the in vivo study with a clinical endpoint would be the recommended option."[73] Recognizing that even those products that are quantitatively and qualitatively the same can, through formulation or manufacturing differences, have different bioavailability, the in vitro option also requires an ANDA applicant to "demonstrate that the proposed generic product has a physiochemical profile acceptably similar to that of the [reference listed drug] . . . [by] perform[ing] . . . comparative physiochemical characterization to assure that . . . generic formulations can be expected to deliver the same amount of drug for absorption at the site of application as the [reference listed drug]," through measuring the seven characteristics of "globule size distribution, viscosity, pH, zeta potential, osmolality, and surface tension."[74]

192. The FDA observed that it was "confident" the in vitro option had "general scientific validity" under any reasonable standard of that concept. Its guidance was "substantiated by scientific evidence," including peer-reviewed research conducted by the FDA's Office of Testing and Research.[75] Allergan's criticisms of the FDA's research "were simply outside the scope" of the FDA's publication.[76] The FDA observed that Allergan "offer[ed] no evidence" to support its position that the FDA's proposed measurements of certain physiochemical properties were insufficient to measure bioavailability on the basis of current

[73] Letter from the Food & Drug Admin. to Allergan, Inc. at 13, Docket No. FDA-2014-P-0304-0042 (Nov. 20, 2014) ("FDA Nov. 2014 Response to Allergan Feb. 2014 Citizen Petition").

[74] *Id.* at 14.

[75] *Id.* at 16-17.

[76] *Id.* at 17 n.55.

science.[77] The FDA also rejected Allergan's claim that current methods of testing were inadequate. It rejected Allergan's claim that the testing methods inadequately assessed safety and efficacy, concluding there was "no merit to this argument."[78] It rejected Allegan's attempt to use the FDA's prior rejection of in vitro data in a completely separate context to undermine the FDA's conditional acceptance of in vitro data to prove the bioequivalence of cyclosporine ophthalmic emulsion, 0.05% products. And it rejected Allergan's attack on FDA's release-rate testing requirement, noting that the guidance recommends that "'[a]cceptable comparative in vitro drug release rate tests' be performed on the reference listed drug and test formulation, and the burden is on ANDA applicants to develop a suitable in vitro method for measuring drug release, not on FDA to prescribe one."[79]

193. Finally, the FDA noted that the alternative to in vitro testing – in vivo testing – was inferior. It stated:

> Because comparative clinical endpoint studies measure formulation differences indirectly rather than directly, it is more likely that in vivo testing will result in erroneous determinations of bioequivalence than in vitro testing. Thus, we believe that the most accurate, sensitive, and reproducible methodology to demonstrate bioequivalence likely will be in vitro testing, as recommended in the Draft Cyclosporine BE Guidance. Moreover, given the modest clinical benefit shown for cyclosporine ophthalmic emulsion, such a comparative clinical endpoint study could require more than 2,000 subjects with dry eye disease to pass the statistical tests for bioequivalence. Consequently, we recognize that a comparative clinical endpoint study may pose economic and logistical feasibility concerns.[80]

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[77] *Id.* at 18.

[78] *Id.* at 20.

[79] *Id.* at 25.

[80] *Id.* at 26 (footnotes omitted).

194. As to Allergan's arguments on the law, the FDA concluded that "[n]one of your legal conclusions has merit."[81]

195. The FDA summed up its rejection of Allergan's complaints, stating that the in vitro-only option in its June 2013 draft guidance was consistent with "the Agency's authority to make bioequivalence determinations on a case-by-case basis using in vivo, in vitro, or both types of data."[82] This authority enabled the FDA "to effectuate several long-standing policies that protect the public health" when approving ANDAs for generic drugs.[83] Those policies included "(1) refraining from unnecessary human research when other methods of demonstrating bioequivalence meet the statutory and regulatory standards for approval; (2) permitting the Agency to use the latest scientific advances in approving drug products; (3) protecting the public by ensuring only safe effective generic drugs are approved for marketing; and (4) making more safe and effective generic drugs available."[84]

196. The FDA rejected each and every factual and legal argument as well as every substantive demand Allergan posited in its February 2014 petition. The only demands that it "allowed" (in quotations given the pyrrhic nature of the grant) were (1) an opportunity to comment on the guidance (which, of course, Allergan had already been given), and (2) an articulation of the basis for FDA's guidance decision (which it had already done, and was required to do in response to any petition on the subject, regardless how frivolous the demand might be).

197. After the FDA issued its November 20, 2014 rejection of Allergan's petition,

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[81] *Id.* at 27.

[82] *Id.* at 7.

[83] *Id.*

[84] *Id.* at 7-8 (footnotes omitted).

Allergan did not appeal that decision. An appeal of that decision in the courts might eventually resolve the issues (likely against Allergan), but that would not hinder the FDA's ordinary course review of then-pending ANDAs for generic Restasis products.

4. December 2014: Allergan files yet another sham citizen petition.

198. On December 23, 2014 – only four weeks later – Allergan filed yet another petition with the FDA (the "December 2014 petition").

199. The December 2014 petition largely repeated the positions Allergan set forth in its February 2014 petition. The December 2014 petition again demanded that the FDA require Restasis ANDA filers to conduct in vivo testing only.

200. Allergan supplemented the December 2014 petition four times, including an August 16, 2015 supplement in which Allergan demanded (among other things) that the FDA convene a committee of outside experts to evaluate the use of in vitro methods for testing generic Restasis. Allergan further demanded that the FDA refuse to receive, review, or approve any generic Restasis ANDAs until that outside committee's evaluation was complete.

201. At the time Allergan filed the December 2014 petition, no reasonable company would have a realistic expectation that the FDA would adopt any of the substantive demands made in the petition. The FDA had already addressed and rejected most of the arguments Allergan made in the December 2014 petition. That petition, and its supplements, provided no new, reliable, clinically relevant information upon which the FDA could allow, consistent with its statutory mandate to make decisions based on science and the law, Allergan's regulatory positions.

5. February 2016: The FDA rejects Allergan's second petition.

202. On February 10, 2016, the FDA denied all of the substantive demands made by Allergan in its December 2014 petition and various supplements to it (the "February 2016

rejection"). In doing so, the FDA rejected each of the scientific and legal positions Allergan took in its petition.

203. The FDA first noted that the December 2014 petition "repeats many of the assertions that were at the center of Allergan's previous petition."[85] Those assertions, the FDA found, were largely not worth further response from the agency.

204. The FDA also observed that many of Allergan's complaints treated the draft guidance in a conceptually inaccurate way; Allergan was treating a draft guidance as a final, immovable position. But as the FDA pointed out, the document clearly "informs the reader via a conspicuously placed text box that the 'draft guidance, *once finalized*, will represent the Food and Drug Administration's (FDA's) current thinking on this topic.'"[86] Since the draft guidance "is a living, science-based document that is subject to change as new data and information on cyclosporine ophthalmic emulsion become available,"[87] Allergan's treatment of it as a static position was incorrect. (Indeed, on the same day that the FDA denied the petition, the FDA issued modifications to the in vitro recommendations in the draft guidance to refine several requirements in the physiochemical characterization and statistical analysis).

205. The FDA rejected, once again, Allergan's rehashed arguments about the ostensible need to show an established in vitro-in vivo correlation (IVIVC). And the FDA rejected Allegan's citation to FDA-funded research on topical ophthalmic suspensions and emulsions as having "no bearing on the scientific validity" of the draft guidance.[88] Among other

[85] Letter of Food & Drug Admin. to Allergan, Inc. at 13, Docket No. FDA 2015-P-0065-0027 (Feb. 10, 2016) ("FDA Feb. 2016 Response to Allergan Dec. 2014 Citizen Petition").

[86] *Id.* (emphasis in original).

[87] *Id.* at 14.

[88] *Id.* at 18.

reasons, that research did not even involve cyclosporine ophthalmic emulsion. It rejected Allergan's citation to a statement attributed to a United States Pharmacopeia Expert Panel; since that panel "did not support [the] statement with evidence,"[89] there was no reason for FDA to credit it.

206. The FDA also rejected Allergan's assertion that in vitro testing of physiochemical properties of emulsions that are quantitatively and qualitatively the same is invalid for determining bioequivalence. It found "misleading" Allergan's characterizations of comments made at an April 2015 public meeting. Because Allergan had repeated arguments about its NDA emulsion tests, the FDA reexamined that data: the FDA wrote it "still find[s] that none of Allergan's test emulsions [were] comparable to Restasis" such that arguments about their lack of bioequivalence were unhelpful.[90] And Allergan had not even *tried* to determine if those emulsion examples had comparative release rates. As the FDA put it, Allergan "did not follow" the draft guidance it attacked. As the FDA explained, Allergan's claim that the in vitro testing was invalid "confuses a scientific obstacle (which FDA expects applicants to overcome to support approval) for a scientific impossibility."[91]

207. The FDA's February 2016 rejection details other flaws of Allergan petition. The FDA was "unable to respond" to Allergan's assertion that the FDA had not acknowledged "other directly relevant data" because "Allergan did not specify the other data that it contends we ignored."[92] Allergan's presentation of globule size distributions used neither instrumentation nor

[89] *Id.* at 19.

[90] *Id.* at 24-25.

[91] *Id.* at 30.

[92] *Id.* at 31.

a methodology "appropriate for the pivotal comparisons" envisioned by the guidance.[93] Indeed, Allegan did not even use the same methodology to measure the test batches than that it used to measure the reference product – a fatal, scientific flaw. Allergan's citation to the FDA's recommendations for in vivo-only bioequivalence testing for solution or suspension products had no relevance to cyclosporine emulsion; the FDA's "bioequivalence recommendations are determined on a case-by-case basis depending on the drug under study,"[94] not for groups of different products with different characteristics. Allergan also "exaggerate[d]" the significance of the FDA's extensive comments for in vivo testing of other topical ophthalmic products. As the FDA put it, "the degree of thought that FDA put into developing these guidances cannot be divined"[95] from the number of comments the FDA provides.

208. The FDA concluded it "has clear legal authority to receive and approve an ANDA for cyclosporine ophthalmic emulsion that relies exclusively on in vitro testing data."[96] As a result, the FDA, once again, rejected all of Allergan's substantive demands. The FDA did agree (1) to disclose (as it had already done) the in vitro bioequivalence methods it intended to accept for ANDAs that refer to Restasis, and (2) to respond specifically to the Allergan's testing of nine experimental test emulsions (and, in doing so, rejected them as scientifically unreliable).

209. After the FDA issued its February 2016 rejection of Allergan's December 2014 petition, Allergan did not appeal that decision. Appealing the decision in the courts might eventually resolve the issues (likely against Allergan), but that would not hinder the FDA's ordinary course review of then-pending ANDAs for generic Restasis products.

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[93] *Id.* at 33.

[94] *Id.* at 36.

[95] *Id.* at 37.

[96] *Id.* at 44.

210. In 2016, the FDA issued amendments to its draft guidance for cyclosporine ophthalmic emulsion products. Allergan commented on those revisions.

6. August 2017: Allergan files a another citizen petition to the FDA.

211. On August 4, 2017, Allergan filed yet another petition with the FDA (the "August 2017 petition"), once again attacking the FDA's articulated scientific basis for approving generic Restasis. This petition predictably requested – again – that the FDA refuse to accept or approve any pending ANDAs unless supported by in vivo clinical endpoint studies.[97] Allergan supplemented this petition on October 13, 2017.[98]

212. At the time that Allergan filed the August 2017 petition, no reasonable company would have a realistic expectation that the FDA would adopt any of the substantive demands made in the petition. The FDA had already addressed and rejected most of the arguments it made in this petition. The August 2017 petition, and its supplement, provided no new, reliable, clinically relevant information upon which the FDA could allow, consistent with its statutory mandate to make decisions based on science and the law, its regulatory positions.

F. August 2015: Allergan begins a series of sham patent infringement lawsuits.

213. In the midst of filing these sham citizen petitions, Allergan also initiated sham lawsuits against its would-be generic competitors. In response to Allergan's Orange Book listings, exactly as Allergan had planned, generic competitors were forced to submitted original or amended Paragraph IV certifications to the FDA with respect to the second wave patents.

214. On or about June 2015, the FDA acknowledged receipt of several ANDAs for cyclosporine ophthalmic emulsion, 0.05%. Upon the FDA's acknowledgement of these ANDAs,

[97] August 2017 Citizen Petition at 1.

[98] Supplement to Allergan's August 4, 2017 Citizen Petition, Docket No. FDA-2017-P-4745 (Oct. 13, 2017) ("October 2017 Supplement").

several generic manufacturers (Apotex, Akorn, Mylan, and Teva) served notices of their Paragraph IV certifications on Allergan starting in July 2015. The Paragraph IV notices asserted that the second wave patents either were invalid or non-infringed. Several other ANDA filers would later follow suit. The table below summarizes when generic manufacturers served their Paragraph IV notices on Allergan.

215. In August of 2015 – after receiving the Paragraph IV notices its Orange Book listings triggered –, Allergan filed suit against Akorn, Teva, Apotex, and Mylan in the Eastern District of Texas. Allergan alleged infringement of various claims in the first five of the six second wave patents.

216. Over time and as additional generic makers served notice of their ANDAs and Paragraph IV certifications on Allergan, Allergan filed additional suits against its would-be competitors. The table below summarizes when Allergan filed these lawsuits.

Defendant	Paragraph IV Notice Received	Complaint Filed	Patents
Teva Pharmaceuticals	07/23/15	08/25/15	’111, ’162, ’556, ’048, ’930
Apotex	07/24/15	08/25/15	’111, ’162, ’556, ’048, ’930
Akorn Pharmaceuticals	07/13/15	08/25/15	’111, ’162, ’556, ’048, ’930
Mylan Pharmaceuticals, Inc.	07/21/15	08/25/15	’111, ’162, ’556, ’048, ’930
InnoPharma, Inc.	08/03/15	09/08/15	’111, ’162, ’556, ’048, ’930
Famy Care Pharma	03/01/16	04/12/16	’111, ’162, ’556, ’048, ’930, ’191
Twi Pharmaceuticals	06/09/16	07/21/16	’111, ’162, ’556, ’048, ’930, ’191
Deva Holdings	11/11/16	12/22/16	’111, ’162, ’556, ’048, ’930, ’191

217. No reasonable brand company would have a realistic expectation of prevailing on

the merits of the second wave litigation.

218. Federal court patent litigation affords parties the opportunity to conduct orderly construction of the applicable patent claims, reveal the actual facts that lurk behind broad misstatements, compare the timing of claimed inventiveness to the true prior art publication dates, and determine the merits of validity and infringement of patents.

219. In the stark light of federal patent litigation, no reasonable litigant in Allergan's position would have realistically expected to avoid invalidation of the second wave patents. These patents were obviousness in light of the prior art as of their September 2003 priority date.

220. First, the second wave patents were *prima facie* obvious in light of the Ding I patent and the Sall and Stevenson publications. Allergan itself conceded this reality in unequivocal terms during its prosecution of the '857 patent.

221. Second, Allergan was cornered into taking the position that, as of the priority date of September 2003, it had uncovered some unexpected and surprising attributes of the 0.05% cyclosporine formulation as compared to the 0.1% formulation. But the data Allergan relied on to reach that conclusion dated back *to its own clinical trials in the 1990s* – the results of which were published *in 2000* in articles that served as prior art to the second wave patent applications.

222. Third, any reasonable litigant would not expect a federal court to accept the machinations to which Allergan's declarants were required to go: rejecting the express conclusions of Allergan's prior publications, deleting p-values and error bars on statistically insignificant data, comparing results from disparate dry eye tests, manipulating data through misleading ratio-of-ratios calculations, ignoring the vast majority of test results in favor of a few outlier outcomes, and ignoring the critical fact that all this data *was prior art to the second wave applications*.

223. Fourth, the second wave patents had been procured by fraud. Allergan knew this. Its enforcement of them was a sham.

224. Finally, while not dispositive of the sham nature of the second wave litigation, the results of that litigation show the plausibility of the allegation that there was no realistic expectation of a win by Allergan on the ultimate merits.

G. September 2017: Allergan enters an anticompetitive agreement with the Saint Regis Mohawk Tribe to avoid invalidation of the second wave patents.

225. Allergan's latest effort to forestall competition in the market for cyclosporine ophthalmic emulsion, 0.05% stems from a series of *inter partes* review requests.

226. In June 2015, Apotex petitioned the Patent Trial and Appeals Board to initiate an *inter partes* review of the second wave patents (Apotex subsequently provided notice of its Paragraph IV certifications to Allergan on July 23, 2015).

227. Allergan settled the Apotex *inter partes* proceedings in December 2015, on undisclosed terms, just days before the Board was set to rule on the likelihood that it would invalidate the second wave patents. By then however, other ANDA applicants, including Mylan and Teva, had also petitioned the Board for *inter partes* review of the second wave patents.

228. In December 2016, the Board resolved the same question that Allergan's settlement with Apotex mooted the year prior, concluding there was a reasonable likelihood that each of the second wave patents would be invalidated upon the Board's further review. That conclusion triggered subsequent proceedings against all six second wave patents.[99]

[99] Because the terms of Allergan's settlement with Apotex in December 2015 (that avoided the risk the second wave patents would be invalidated for as much as a year) were not made public, KPH is presently unable to determine the extent to which that settlement may have violated *FTC v. Actavis*, 570 U.S. 136 (2013), and thereby constitute another component in Allergan's overall scheme.

229. On September 8, 2017, Allergan entered into an ostensible agreement with the Saint Regis Mohawk Tribe to convey ownership of the second wave patents to the tribe with an exclusive license back to Allergan for all FDA-approved uses in the United States. The agreement also included a promise from Mohawk that it would not waive its sovereign immunity with respect to any *inter partes* review or other administrative action in the PTO related to the second wave patents. The agreement further provided for a payment *to Mohawk* of $13.5 million from Allergan, plus potentially $15 million in annual royalties.[100]

230. On September 22, 2017, after Mohawk and Allergan entered into this unlawful transfer of property rights, Allergan and Mohawk petitioned the Board to dismiss the pending *inter partes* reviews for lack of jurisdiction based on tribal sovereign immunity.[101]

231. No objectively reasonable litigant could expect these obstructionist tactics to succeed. Courts have rejected similar schemes to game the law, including in the context of sovereign tribes where the only interest the tribe had was in being paid for the cover of immunity.[102]

232. The *Allergan* court allowed Mohawk to be joined as a co-plaintiff, but only to ensure that any judgment it rendered would apply to Mohawk. The Court explained that despite its "serious concerns about the legitimacy of the tactic that Allergan and the Tribe have

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[100] *See* Brenda Sandburg, *Allergan May Rue Mohawk Tribe Deal as Court Invalidates Restasis Patents*, Pink Sheet (Oct. 16, 2017), https://pink.pharmaintelligence.informa.com/PS121779/Allergan-May-Rue-Mohawk-Tribe-Deal-As-Court-Invalidates-Restasis-Patents.

[101] Mem. Order & Op. at 2, *Allergan, Inc. v. Teva Pharm. USA, Inc.*, Civ. No. 2:15-cv-01455 (E.D. Tex. Oct. 16, 2017), ECF No. 522 ("Tribe Joinder Op.").

[102] *See, e.g.*, *People ex rel. Owen v. Miami Nation Enter.*, 386 P.3d 357 (Cal. 2016).

employed,"[103] it would "adopt the safer course of joining the Tribe as a co-plaintiff, while leaving the question of the validity of the assignment to be decided in the [*inter partes* review] proceedings."[104]

233. Allergan has made no secret of its subjective bad faith in adding Mohawk as a defendant in the *inter partes* reviews. Allergan's chief executive, Brent Saunders, explicitly acknowledged that Allergan pursued the deal with Mohawk not to advance competition on the merits, but rather to avoid "double jeopardy" – that is, to intentionally disrupt one of the two adjudicative proceedings (the federal district court proceedings or the *inter partes* review proceedings). However, this stated rational ignores the fact that Allergan itself initiated the federal district court proceedings and could voluntarily dismiss them at any time.

234. Mohawk, for its part, entered the agreement for the money. Mohawk is not entering the pharmaceutical industry. In fact, Mohawk has publicly disclaimed any actual business interest in the pharmaceutical industry.[105] Licensing the second wave patents back to Allergan was not a natural outgrowth of any ownership interest Mohawk had prior to September 2017. And, from Mohawk's comments, the agreement was not made pursuant to a natural future interest either. In entering this contract, Mohawk was not acting in its sovereign capacity, e.g., regulating the sale or use of cyclosporine ophthalmic emulsion, 0.05% on a reservation.

H. October 2017: A federal district court invalidates the second wave patents.

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[103] Tribe Joinder Op. at 4.

[104] *Id.* at 9.

[105] *See* Saint Regis Mohawk Tribe Office of Technology, Frequently Asked Questions About New Research and Technology (Patent) Business at 1, https://www.srmt-nsn.gov/_uploads/site_files/Office-of-Technology-Research-and-Patents-FAQ.pdf ("[T]he Tribe is not investing any money in this business. Its only role is to hold the patents, get assignments, and make sure that the patent status with the US Patent Office is kept up to date.").

235. Following an August trial, on October 16, 2017, the Eastern District of Texas held the second wave patents were invalid for obviousness. Judge William C. Bryson of the United States Court of Appeals for the Federal Circuit presided over this trial, sitting on the Eastern District of Texas by designation. In an extremely thorough opinion, the *Allergan* court found that Allergan had secured the second wave patents by "paint[ing] a false picture" of the relevant data.[106] As the Court explained, Allergan had conceded in 2009 that the Restasis formulation would have been "readily envisage[d]" from the Ding I patent.[107] And the data Allergan relied on to show unexpected results did not, in reality, demonstrate anything unexpected. In any event, this data was actually prior art and could not be relied on to prove the patentability of the second wave patents.

236. Despite this litigation's lack of objective merit, Allergan pressed its claims for years.

237. The objective merits were irrelevant, however, to Allergan's true purpose. Allergan filed suit not to vindicate any legitimate patent infringement issues, but to frustrate the introduction of generic Restasis products on the market. Its motives were financial: every extra month Allergan could delay competition on Restasis added another $125 million to its revenues.

I. January 2018: The FDA rejects Allergan's third citizen petition.

238. On January 2, 2018, the FDA rejected Allergan's third petition.

239. Given the repetitive and unsupported nature of the issues this petition once again posited, the FDA's rejection was brief. And once again, it reminded Allergan of the publicly stated requirements for approval of generic Restasis.

J. In the absence of Allergan's scheme to monopolize, generic Restasis would have

[106] *Allergan*, 2017 WL 4803941, at *39.

[107] *Id.* at *9.

been available as early as May 2014.

240. Were it not for Allergan's execution of its unlawful scheme, generic Restasis would have been approved and entered the market as early as May 2014.

241. ANDAs for generic Restasis were submitted to the FDA many years ago; in some cases, over two years before the expiration of the Ding I patent in May of 2014. Given the average amount of time it took the FDA to grant full approval of ANDAs in 2014 (about a year and a half),[108] the lengthy period of time following the submissions of the generic Restasis ANDAs fell well within that time period.

242. Specifically, as to generic Restasis ANDAs, the FDA acknowledged in mid-2015 the filing of several ANDAs. Those acknowledgements constitute a ruling that those ANDAs were substantially complete at the time that they were filed. This indicates that at the time of their submission – in some cases months or years before expiration of the Ding I patent – those applications contained sufficient information from which FDA review and an approval decision could be made.

243. Some of the largest and most sophisticated drug companies had submitted the ANDAs for generic Restasis. The active and inactive ingredients are commonly known, easily available and unprotected by patents. The actual production of cyclosporine ophthalmic emulsion, 0.05% poses little manufacturing or formulation obstacles. To be sure, each ANDA applicant had to meet the challenges posed by the FDA's in vitro testing requirements. But few actual production obstacles stood in the way of readying the drug for distribution.

244. The obstacles Allergan's scheme constructed are of a kind that normally do cause,

[108] Food & Drug Admin., Performance Report to Congress for the Generic Drug User Fee Amendments 15 (2015).

and are expected to cause, delay of generic entry. Obtaining patents through fraud and then enforcing them burdens ANDA applicants and delays generic entry. In the absence of the second wave patents, no patent obstacles would have existed after May 2014. Allergan's decision to list its fraudulent patents in the Orange Book enabled it to file litigation immediately (upon receipt of the Paragraph IV notification) against generic competitor as well as obtain 30-month stays of FDA approval for generics. These listing also create the potential for a 180-day period of generic first-filer exclusivity. Filing petitions to the FDA that were unlikely to change FDA policy further disrupt the ordinary course of the FDA's review and approval of the generic Restasis ANDAs. Despite the FDA's misgivings about the lack of sound, substantive bases for Allergan's citizen petitions, the FDA was nonetheless obligated to respond to each of Allergan's requests. Allergan's rampant litigiousness, including sham transfers of the second wave patents to a Native American tribe to avoid PTO scrutiny, signals to generic manufacturers and the FDA that Allergan will stop at almost nothing to frustrate generic competition.

245. Delay of generic approvals also flows from some FDA statements. For example, in the February 2016 rejection letter, the FDA informed Allergan that it would "not approve or receive any ANDA referencing Restasis based on in vitro assays unless and until FDA responds specifically to the findings of Allergan's testing of nine experimental test emulsions" submitted with the December 2014 Citizen Petition.[109] While that letter itself provided the response needed, the FDA effectively acknowledged that Allergan's petition – although based on faulty science and ultimately having no merit whatsoever – had already delayed its approval of any

[109] More specifically, Allergan submitted data regarding a series of emulsions that were not bioequivalent to Restasis, but Allergan claimed passed the agency's in vitro test. FDA Feb. 2016 Response to Allergan Dec. 2014 Citizen Petition at 24. The FDA pointed out that none of these emulsions, in fact, met the in vitro test, *id.* at 24-26, – a fact that Allergan itself partially admitted. *Id.* at 25-26, 26 n.107. The agency, nevertheless, fully responded to Allergan's claim.

generic Restasis ANDA.

246. An inference of delay also follows from Allergan's intent and its actions. Allergan's acts were intended to have the effect of delaying generic entry. They were not idly undertaken, nor undertaken to improve public health or safety. (Note, for example, Allergan's choice not to bring suit to challenge the FDA's denial of its petitions). It is reasonable to infer Allergan's actions had their intended consequence.

247. The generic industry itself has acknowledged Allergan's delay of generic versions of Restasis. As Mylan's CEO, Heather M. Bresch, has explained, "I think this is a great example of [Mylan] persevering through what I would call [Allergan's] pretty desperate legal maneuvers to try to maintain a monopoly that should have been gone a couple of years ago, and our ability [to] continue to fight not only in the courts, but with the science and have a clear pathway to approvals."[110]

248. Had scientists, regulatory professionals, lawyers, generic manufacturers, and the FDA not been tied up by Allergan's "desperate legal maneuvers," and had they not been forced for years to "continue to fight" Allergan's anticompetitive conduct, they would have remained focused solely on ensuring that safe and effective generic version(s) of Restasis were approved "years ago" at, or as near as possible to, the expiration of the Ding I patent in May 2014. This delay in competition is a direct result of Allergan's anticompetitive scheme and the exact result Allergan intended to achieve.

249. But for Allergan's misconduct, one or several of the ANDA filers would have received FDA approval and would have been able to supply the commercial quantities of

[110] Mylan, *Mylan NV (MYL) Q3 2017 Results – Earning Call Transcript*, Seeking Alpha, at 13 (Nov. 6, 2017), https://seekingalpha.com/article/4121235-mylan-nv-myl-q3-2017-results-earnings-call-transcript?all=true&find=%22and%20on%C2%A0RESTASIS%E2%80%A6.

generic Restasis necessary to meet market demand upon expiration of the Ding I patent as early as May 2014.

VI. ALLERGAN's ACTIONS IMPACT INTERSTATE TRADE AND COMMERCE

245. As described herein, during the Class Period, Defendant Allergan, directly or through one or more of their affiliates or through its assignee, sold Restasis throughout the United States in a continuous and uninterrupted flow of interstate commerce, including through and into this District.

246. The business activities of Defendant that is the subject of this action were within the flow of, and substantially affected, interstate trade and commerce.

247. Defendant's conduct, including the marketing and sale of Restasis has had, and was intended to have, a direct, substantial, and reasonably foreseeable anticompetitive effect upon interstate commerce within the United States.

248. The monopolization and conspiracy alleged in this Complaint has directly and substantially affected interstate commerce as Defendant deprived Plaintiff and Members of the Direct Purchaser Class of the benefits of free and open competition in the purchase of Restasis within the United States.

249. Defendant's anticompetitive scheme of monopolization, contract in restraint of trade, and conspiracy to monopolize was to inflate, fix, raise, maintain, or artificially stabilize prices of Restasis, and its actual inflating, fixing, raising, maintaining, or artificially stabilizing Restasis prices, were intended to have, and had, a direct, substantial, and reasonably foreseeable effect on interstate commerce within the United States and on import trade and commerce with foreign nations.

VII. ALLERGAN HELD MARKET POWER FOR RESTASIS

250. The relevant geographic market is the United States and its territories and possessions. During the Class Period, Allergan has held 100% of the cyclosporine ophthalmic emulsion market.

251. Allergan has had continuous monopoly power in the market for Restasis and its AB-rated generic equivalents because it had the power to maintain the price of Restasis at supracompetitive levels without losing substantial sales to other products prescribed and/or used for the same purposes as Restasis, such as AB-rated generic cyclosporine ophthalmic emulsion products. Allergan's market power may be shown through direct evidence. Thus, defining the relevant market is not required.

252. Allergan has held monopoly power since the grant of the Ding I patent in 1995. When it received FDA approval in December 2002, Allergan represented Restasis as "the first and only therapy for patients with keratoconjunctivitis sicca (chronic dry eye disease-CDED) whose tear production is presumed to be suppressed due to ocular inflammation." Allergan represented to the FDA that Restasis was "a pathbreaking product that was developed to treat the widespread and sometimes debilitating problem of dry eye disease. Before RESTASIS, dry eye disease was a largely unmet medical need. After years of FDA-required clinical trials, Allergan was able to produce a precisely formulated drug that has significant efficacy in treating dry eye disease."[111]

253. There are no practical substitutes for Restasis. Artificial tears offer relief of symptoms but and do not treat the underlying causes of dry eye. Corticosteroids can address the inflammation associated with dry eye, but have unwanted side effects, as do devices like "punctal plugs," which block the tear ducts and help the eye retain naturally produced tears for longer.

[111] Allergan, Inc. Citizen Petition, Feb. 28, 2014, at 13.

Patients treated with Restasis would not switch to these products in response to a small but significant non-transitory increase in the price of cyclosporine. Shire US, Inc.'s introduction last year of its rival dry eye product, Xiidra, has not resulted in lower Restasis prices. Shire has sued Allergan for engaging in an alleged "ongoing, overarching, and interconnected scheme to systematically block Shire from competing with Allergan." *See Shire US, Inc. v. Allergan, Inc. et al.*, No. 2:17-cv-07716 (D.N.J. Oct. 2, 2017).

254. Allergan's ability to double the price of Restasis over the past decade without loss of significant sales demonstrates the lack of substitutability between Restasis and other drug products.[112] Restasis does not exhibit significant, positive cross-elasticity of demand with respect to price with any other dry eye medication. Other various dry eye treatments may exist, but none exhibit cross price elasticity with and therefore do not constrain the price of Restasis.

255. Functional similarities between Restasis and other dry eye medications, other than AB-rated generic Restasis equivalents are insufficient to permit inclusion of those other drug products in the relevant market with Restasis. Only AB-rated generic versions of Restasis entering the market will help prevent Allergan from raising or maintaining the price of Restasis at supracompetitive levels.

256. Restasis is not reasonably interchangeable with any products other than AB-rated generic versions of Restasis. The FDA does not consider Restasis interchangeable with any other medication. Restasis is a topical ophthalmic formulation, and Allergan has explained, "[u]nlike

[112] *See* David Crow, *Allergan Deal with Mohawk Tribe Casts Patent Shadow*, *Fin. Times*, Sept. 27, 2017 ("The average wholesale price of a 30-dose pack of Restasis has more than doubled from $117 in 2008 to almost $280 today").

other drug delivery routes, a topical ophthalmic formulation usually delivers drug to the ocular tissues in relatively short timeframe of a few minutes."[113]

257. As described herein, Allergan has enjoyed high barriers to entry with respect to competition in the market for cyclosporine ophthalmic emulsion due to patent enforcement, regulatory bars to FDA approval of AB-rated generic competitors, and high costs of market entry.

258. As a result of unlawful Defendant's unlawful monopolization scheme, Defendant restrained competition for the sale of Restasis in the U.S.

259. Allergan has exercised its monopoly power to exclude and restrict competition to Restasis and its AB-rated equivalents. Allergan sold Restasis at prices well in excess of marginal costs, and substantially in excess of the competitive price, and enjoyed high profit margins.

260. General economic theory predicts that prices will drop upon generic entry. However, there are no generic versions of Restasis on the market, and Defendant can charge supracompetitive and monopolistic prices. Defendant is exploiting its market dominance while it has a chance. Eventual market entry by generics will significantly eat into Defendant's profits.

261. To the extent Plaintiff is legally required to prove monopoly power through circumstantial evidence by first defining a relevant product market, Plaintiff alleges that the relevant market is all cyclosporine ophthalmic emulsion products, which are Restasis in all dosage strengths and any AB-rated generic equivalents.

VIII. ALLERGAN'S VIOLATIONS OF THE ANTITRUST LAWS

262. Defendant's monopolization, contract in restraint of trade and conspiracy to monopolize had the following anticompetitive effects in the market for Restasis:

[113] Allergan, Inc., Comment re Docket No. FDA 2007 D 0369—June 2013 Draft Bioequivalence Guidance for Cyclosporine Ophthalmic Emulsion, 0.05%, Aug. 17, 2013, at 13.

(a) Competition in the market for Restasis has been reduced or eliminated;

(b) Prices for Restasis have maintained at supracompetitive levels; and

(c) U.S. purchasers have been deprived of the benefit of price competition in the market for Restasis.

263. As described herein, During the Class Period, Plaintiff and Members of the Direct Purchaser Class directly purchased Restasis from Defendant. As a result of the Defendant's anticompetitive conduct, Plaintiff and Members of the Direct Purchaser Class paid more for Restasis than they would have and thus suffered substantial damages. Plaintiff and members of the Class have sustained substantial losses and damage to their business and property in the form of overcharges. This is a cognizable antitrust injury and constitutes harm to competition under the federal antitrust laws.

264. But for the anticompetitive conduct alleged herein, multiple generic manufacturers would have entered the market with their generic cyclosporine ophthalmic emulsion products starting as early as May 2014, when the exclusivities associated with Ding I and related patents expired. Allergan willfully and unlawfully maintained its monopoly power in the market for cyclosporine ophthalmic emulsion through fraudulently obtaining the second wave patents, wrongfully listing invalid patents in the Orange Book, enforcing invalid patents against the generic manufacturers, submitting baseless citizen petitions to the FDA, and entering into an anti-competitive agreement with the Tribe in an attempt to avoid IPR proceedings related to the second wave patents. These acts, individually and in combination, were anticompetitive.

265. If Allergan had not defrauded the PTO, (i) the second wave patents would not have issued, (ii) Allergan would not have sued generic manufacturers, which automatically stayed any

FDA approval of any generic alternatives, and (iii) AB-rated generic Restasis manufacturers would have been able to launch generic cyclosporine ophthalmic emulsion products by May 2014.

266. Allergan's anticompetitive conduct had the purpose and effect of restraining competition unreasonably and injuring competition by protecting Restasis from generic competition. Allergan's actions allowed it to maintain a monopoly and exclude competition in the market for cyclosporine ophthalmic emulsion, *i.e.*, Restasis and its AB-rated generic equivalents.

267. Allergan's exclusionary conduct has delayed generic competition and unlawfully enabled it to sell Restasis without generic competition. But for the illegal conduct of Allergan, one or more of the following ANDA-filers would have begun marketing generic versions of Restasis as early as May 2014.

268. Typically, generic versions of brand-name drugs are initially priced significantly below the corresponding reference listed drug ("RLD") branded counterpart as to which they are AB-rated. As a result, upon generic entry, direct purchasers' purchases of brand drugs are rapidly substituted for generic versions of the drug for some or all of their purchases. As more generic manufacturers enter the market, prices for generic versions of a drug predictably plunge even further because of competition among the generic manufacturers, and, correspondingly, the brand name drug continues to lose even more market share to the generic versions of the drug.

269. This price competition enables all purchasers of the drug to: (a) purchase generic versions of a drug at substantially lower prices; (b) purchase generic equivalents of the drug at a lower price, sooner; and/or (c) purchase the brand drug at a reduced price. Consequently, brand manufacturers have a keen financial interest in delaying and impairing generic competition, and purchasers experience substantial cost inflation from that delay and impairment.

270. If generic competitors had not been unlawfully prevented from entering the market earlier and competing with Allergan, direct purchasers, such as Plaintiff and members of the Class, would have paid less for cyclosporine ophthalmic emulsion by (a) substituting purchases of less expensive AB-rated generic Restasis for their purchases of more-expensive branded Restasis, (b) receiving discounts on their remaining branded Restasis purchases, and/or (c) purchasing Restasis at lower prices sooner.

271. Thus, the unlawful conduct of Allergan deprived Plaintiff and the Class Members of the benefits of competition that the antitrust laws were designed to ensure.

272. Defendants' anticompetitive conduct is ongoing, and as a result Plaintiff and the Members of the Direct Purchaser Class continue to pay supracompetitive prices for Restasis.

IX. CLASS ACTION ALLEGATIONS

273. Pursuant to Federal Rules of Civil Procedure 23(a), (b)(2) and (b)(3), Plaintiff brings this action on behalf of a Direct Purchaser Class defined as follows:

> All persons or entities that directly purchased Restasis in the United States and its territories and possessions at any time during the period May 2014 through and until the anticompetitive effects of Allergan's conduct cease (the "Class Period").
>
> Excluded from the Direct Purchaser Class are Defendant and its officers, directors, management, employees, subsidiaries, or affiliates, and all governmental entities.

274. Members of the Class are so numerous that joinder is impracticable. Plaintiff believes that there are hundreds of Class Members, geographically dispersed throughout the United States such that joinder of all Class Members is impracticable. Further, the Class is readily identifiable from information and records maintained by Defendant.

275. Plaintiff's claims are typical of the claims of the members of the Class. Plaintiff's interests are not antagonistic to the claims of the other Class Members, and there are no material

conflicts with any other member of the Class that would make class certification inappropriate. Plaintiff and all members of the Class were damaged by the same wrongful conduct of Defendant.

276. Plaintiff will fairly and adequately protect and represent the interests of the Class. The interests of the Plaintiff are coincident with, and not antagonistic to, those of the Class.

277. Plaintiff is represented by counsel who are experienced and competent in the prosecution of class action litigation, and who have particular experience with class action litigation involving alleged violations of antitrust law.

278. Questions of law and fact common to the members of the Class predominate over questions that may affect only individual Class Members because Defendant has acted on grounds generally applicable to the entire Class, thereby determining damages with respect to the Class as a whole is appropriate. Such generally applicable conduct is inherent in Defendant's wrongful conduct.

279. The common legal and factual questions, which do not vary from Class member to Class member and which may be determined without reference to individual circumstances of any Class member, include, but are not limited to, the following:

(a) Whether Allergan willfully obtained and/or maintained monopoly power over Restasis and its generic equivalents in the United States;

(b) Whether Allergan obtained the second wave patents by fraud;

(c) Whether Allergan unlawfully excluded competitors from the market for Restasis and its AB-rated generic equivalents;

(d) Whether Allergan unlawfully delayed or prevented generic manufacturers of cyclosporine ophthalmic emulsion from entering the market in the United States;

(e) Whether Allergan maintained monopoly power;

(f) Whether Allergan's agreement with the Tribe violated Section 1 of the Sherman Act;

(g) Whether there was any legitimate business justification for the anti-competitive contract between Allergan and the Tribe, and whether the anti-competitive effects of that contract outweigh any reasonable pro- competitive benefits or justifications;

(h) Whether Allergan and the Tribe conspired to monopolize the Restasis market;

(i) Whether the law requires definition of relevant market when direct proof of monopoly power is available, and if so the definition of the relevant market;

(j) Whether Allergan's activities as alleged herein have substantially affected interstate commerce;

(k) The effect of Allergan's anticompetitive conduct on the prices of Restasis in the United States during the Class Period;

(l) Whether Defendant's conduct caused supracompetitive prices for Restasis;

(m) Whether, and to what extent, the conduct of Defendant caused antitrust injury to Plaintiff and Class Members;

(n) The nature and extent of damages and injunctive relief to which Plaintiff and Class Members are entitled;

(o) Whether treble damages should be awarded; and.

(p) Whether Plaintiff and Class Members should be awarded attorneys' fees and costs.

280. Class action treatment is a superior method for the fair and efficient adjudication of the controversy. Such treatment will permit a large number of similarly situated persons or entities to prosecute their common claims in a single forum simultaneously, efficiently, and without the unnecessary duplication of evidence, effort, or expense that numerous individual actions would

engender. The benefits of proceeding through the class mechanism, including providing injured persons or entities a method for obtaining redress on claims that could not practicably be pursued individually, substantially outweighs potential difficulties in management of this class action.

281. Plaintiff knows of no special difficulty to be encountered in the maintenance of this action that would preclude its maintenance as a class action.

X. CLAIMS FOR RELIEF

COUNT 1 - VIOLATION OF SECTION 2 OF THE SHERMAN ACT, 15 U.S.C. § 2 MONOPOLIZATION THROUGH *WALKER PROCESS* FRAUD

282. Plaintiff incorporates and re-alleges, as though fully set forth herein, each of the paragraphs set forth above.

283. Allergan used willful and exclusionary means as part of an overall scheme to improperly maintain and extend its monopoly power in the market for Restasis. Allergan accomplished its exclusionary scheme through *Walker Process* fraud and sham litigation.

284. Allergan obtained patents through *Walker Process* fraud on the USPTO as described above. Allergan made false statements and misrepresentations to the USPTO during prosecution of the second wave patents.

285. The goal, purpose and effect of Allergan's scheme was to prevent the entry of competition in the market for Restasis and to maintain prices at supracompetitive levels.

286. Plaintiff and Class Members purchased Restasis directly from Allergan.

287. Through the anticompetitive scheme, Allergan intentionally and wrongfully achieved monopoly power with respect to Restasis in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2. As a result of this unlawful monopoly, Plaintiff and Class Members paid artificially inflated prices for Restasis. But for Allergan's illegal conduct, competitive prices for Restasis would have existed, and Plaintiff and Class Members would have paid less Restasis.

288. Consequently, Plaintiff and Class Members have sustained damages to their business and property in the form of overcharges for Restasis. The injury to Plaintiff and Class Members is the type of injury antitrust laws were designed to prevent, and injury flows from Allergan's unlawful conduct.

289. Allergan's anticompetitive conduct was undertaken with the specific intent to monopolize the market for Restasis in the United States, in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2.

290. As described herein, from 1995 and continuing through the present, Allergan has possessed monopoly power in the market for Restasis (cyclosporine ophthalmic emulsion). During the relevant time period, no other manufacturer sold a competing version of any cyclosporine ophthalmic emulsion product in the United States.

291. Allergan has willfully and unlawfully maintained its monopoly power in the Restasis market from May 2014 through the present by wrongfully asserting patents obtained by fraud against generic manufacturers.

292. Allergan knowingly and intentionally asserted the invalid second wave patents in order to maintain its monopoly power and delay the entry of AB-rated generic versions of Restasis.

293. Allergan, by and through its patent attorneys and scientists who submitted declarations in support of patentability, including Laura L. Wine, Dr. Rhett M. Schiffman, and Dr. Mayasa Attar, made intentional misrepresentations of fact to the PTO as follows:

(a) Statements by Allergan's patent counsel that Dr. Schiffman's declaration showed "surprisingly, the claimed formulation [of 0.05% cyclosporine and 1.25% castor oil] demonstrated an *8-fold* increase in relative efficacy for the Schirmer Tear Test score in the first study of Allergan's Phase 3 trials compared

to the relative efficacy for the 0.05% by weight cyclosporine A/0.625% by weight castor oil formulation discussed in Example 1E of Ding, tested in Phase 2 trials. The data presented herewith represents the subpopulation of Phase 2 patients with the same reductions in tear production (x 5mm/5 min) as those enrolled in the Phase 3 studies…. Exhibits E and F also illustrate that the claimed formulations also demonstrated a *4-fold* improvement in the relative efficacy for the Schirmer Tear Test score for the second study of Phase 3 and a *4-fold* increase in relative efficacy for decrease in corneal staining score in both of the Phase 3 studies compared to the 0.05% by weight cyclosporine A/0.625% by weight castor oil formulation tested in Phase 2 and disclosed in Ding (Ding 1E). This was clearly a very surprising and unexpected result."[114]

(b) Figures 1-4 in Dr. Schiffman's declaration reported figures from the Sall paper but omitted all error bars and p-values. The District Court found that none of the pair-wise comparisons between the two cyclosporine formulations for corneal staining and Schirmer scores in the Phase 2 study or the pooled Phase 3 studies demonstrated statistical significance at any time point, and many of the p-values for the pair-wise comparisons were very high. The actual statistical analyses showed that any observed difference in raw numbers between the cyclosporine formulations was likely the result of random chance and that Dr. Schiffman made inferences of "dubious validity." [115]

[114] *See Allergan, Inc. v. Teva Pharmaceuticals USA, Inc., et al.*, 2:15-cv-01455-WCB (E.D. Tex.), Dkt. No. 523, Findings of Fact and Conclusions of Law at 21-22.

[115] *Id.* at 76.

(c) Dr. Schiffman did not disclose to the PTO that he was comparing different Schirmer tear test scores, one without anesthesia in Phase 2 and one with anesthesia in Phase 3, in order to purportedly show a difference in efficacy. The District Court found that only the Schirmer tear test results with anesthesia in Phase 3 significantly favored the 0.05% cyclosporine formulation. "It was therefore only by comparing the results of two different types of tests that Dr. Schiffman was able to produce a significantly distorted picture suggesting that the [Phase 3 formulation' was much more effective than the [Phase 2 formulation].[116]

(d) Dr. Schiffman did not disclose to the PTO that the method he chose to calculate the differences in efficacy "exaggerated the difference in the raw values between the two."[117]

(e) The calculations in Dr. Schiffman's table are misleading:

i. Dr. Schiffman used ratios of the degree of improvement, which tends to overstate the difference between the results.

ii. Dr. Schiffman ignored the fact that the Phase 2 study was quite small, and that the difference in the raw numbers between formulations were not statistically significant.

[116] *Id.*

[117] *Id.* at 78.

iii. Dr. Schiffman only included data from favorable comparisons between the two formulations. He omitted categories where the Ding I formulation did better than the second wave formulation.[118]

(f) Dr. Schiffman did not disclose to the PTO that the data provided was taken from the Sall paper published in 2000, which was three years before the priority date for the second wave patents.[119]

294. Prior to Allergan's material misrepresentations, the examiner had rejected Allergan's claims in patent applications as obvious and had also rejected Allergan's purported secondary considerations of non-obviousness, such as commercial success and unmet need. Both the PTAB's decision and the decision of the U.S. District Court for the Eastern District of Texas finding patent invalidity support the materiality of Allergan's misrepresentations and omissions.

295. Allergan made these statements with intent to deceive the PTO, and the PTO reasonably relied on Allergan's false and misleading statements in issuing the second wave patents. The examiner stated that the Schiffman declaration was deemed sufficient to overcome his earlier rejection based on Ding I because "Examiner is persuaded that, unexpectedly, the claimed formulation … demonstrated an 8-fold increase in relative efficacy for the Schirmer Tear Test score in the first study of Phase 3 trials compared to relative efficacy for the formulation disclosed in Ding I." The Examiner also explained that the declarations "illustrate that the claimed formulations … also demonstrate a 4-fold improvement in the relative efficacy for the Schirmer Tear Test score for the second study of Phase 3 and a 4-fold increase in relative efficacy for

[118] *Id.*

[119] *Id.* at 82.

decrease in corneal staining score in both of the Phase 3 studies compare to the … formulation tested in Phase 2 and disclosed in Ding…."

296. But for Allergan's misrepresentations and omissions, the second wave patents would not have issued. Allergan listed the second wave patents in the Orange Book and later asserted them in infringement litigation against all would-be generic competitors. Further, but for Allergan's asserting the fraudulently obtained patent, generic versions of Restasis would have been available as early as May 2014.

297. There is no valid procompetitive business justification for Allergan's anticompetitive conduct, and to the extent Allergan offers one, it is pretextual and not cognizable, and any procompetitive benefits of Allergan's conduct do not outweigh its anticompetitive harms.

298. Defendant's anticompetitive acts were intentional, were directed at the sales of Restasis in the United States, and had a substantial and foreseeable effect on interstate commerce by maintaining prices of Restasis at supracompetitive levels throughout the United States during the Class Period.

299. As a result of Defendant's unlawful conduct, Plaintiff and Class Members have been injured in their business and property in that they have paid more for Restasis than they otherwise would have paid in the absence of Defendant's unlawful conduct. The full amount of such damages is presently unknown but will be determined after discovery and upon proof at trial.

300. Defendants' unlawful conduct as alleged herein poses a significant, continuing threat of antitrust injury for which injunctive relief is appropriate under Section 16 of the Clayton Act.

COUNT 2 - VIOLATION OF SECTION 2 OF THE SHERMAN ACT, 15 U.S.C. § 2
OVERARCHING ANTICOMPETITIVE SCHEME

301. Plaintiff incorporates and re-alleges, as though fully set forth herein, each of the paragraphs set forth above.

302. As described herein, from 1995 and continuing through the present, Allergan has possessed monopoly power in the market for Restasis (cyclosporine ophthalmic emulsion). During the relevant time period, no other manufacturer sold a competing version of any cyclosporine ophthalmic emulsion product in the United States.

303. Allergan has willfully and unlawfully maintained its monopoly power in the Restasis market from May 2014 through at least the present day by engaging in an anticompetitive scheme to keep generic equivalents from the market.

304. Allergan knowingly and intentionally engaged in an anticompetitive scheme in order to maintain its monopoly power, including:

(a) Prosecuting serial baseless patent applications and ultimately obtaining the second wave patents by fraud through misleading the PTO and failing to exercise the duty of disclosure, candor, and good faith;

(b) Improperly listing the second wave patents in the Orange Book;

(c) Wrongfully trying to enforce the second wave patents in multiple lawsuits;

(d) Submitting serial baseless citizen petitions; and

(e) Abusing the Patent Trial and Appeal Board's *inter partes* review process through an anticompetitive transfer of the second wave patents to the Saint Regis Mohawk Tribe.

305. Through the overarching scheme, Allergan intentionally and wrongfully maintained monopoly power with respect to Restasis in violation of Section 2 of the Sherman Act.

As a result of this unlawful maintenance of monopoly power, Plaintiff and members of the Class paid artificially inflated prices for cyclosporine ophthalmic emulsion.

306. Plaintiff and members of the Class have been injured by Allergan's antitrust violations in their business or property in the form of overcharges. Plaintiff and members of the Class paid higher prices for their cyclosporine ophthalmic emulsion requirements than they would have paid in the absence of those violations. Such injury is of the type antitrust laws were designed to prevent. Plaintiff and the Class Members are the proper entities to bring a case concerning this conduct.

307. As described herein, Allergan knowingly and intentionally committed *Walker Process* fraud to induce the PTO to grant the second wave patents.

308. Allergan knowingly listed the second wave patents that were obtained through fraud in the Orange Book. Allergan knew that listing the second wave patents in the Orange Book would force ANDA applicants to file paragraph IV certifications that would provide Allergan the opportunity to file patent infringement suits against those ANDA applicants, triggering an automatic stay of any FDA final approval of any new paragraph IV-certified ANDA applicant's generic Restasis product for a period of up to 30 months.

309. Allergan knowingly and intentionally engaged in multiple sham litigations against manufacturers of AB-rated generic equivalents of Restasis that no reasonable pharmaceutical company in Allergan's position would realistically expect to win.

310. Allergan knowingly and intentionally submitted multiple citizen and other petitions to the FDA when no reasonable pharmaceutical manufacturer in Allergan's position would expect the FDA to grant the requested relief. The purpose and intent of these petitions was to delay the

FDA's approval of any of the pending generic ANDA applications, regardless of any objective merit of the petitions.

311. Allergan knowingly and intentionally transferred the second wave patents to the Tribe, a sovereign tribe that does not manufacture or distribute pharmaceutical products, in an attempt to avoid IPR proceedings.

312. Allergan's anticompetitive conduct as alleged herein is not entitled to any qualified *Noerr-Pennington* immunity, nor is it protected by the state action doctrine.

313. There is no valid procompetitive business justification for Allergan's anticompetitive conduct, and to the extent Allergan offers one, it is pretextual and not cognizable, and any procompetitive benefits of Allergan's conduct do not outweigh its anticompetitive harms.

314. Defendants' unlawful conduct as alleged herein poses a significant, continuing threat of antitrust injury for which injunctive relief is appropriate under Section 16 of the Clayton Act.

COUNT 3 - VIOLATION OF SECTION 1 OF THE SHERMAN ACT, 15 U.S.C. § 1 CONTRACT IN RESTRAINT OF TRADE

315. Plaintiff incorporates and re-alleges, as though fully set forth herein, each of the paragraphs set forth above.

316. Defendant entered into a contract, with the Tribe in unreasonable restraint of trade in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1.

317. Defendant's contract in restraint of trade and its other anticompetitive acts were intentionally directed at the Restasis market in the United States, and had a substantial and foreseeable effect on interstate commerce by interfering with potential generic competition for Restasis and raising and maintaining Restasis prices at supra-competitive levels throughout the United States.

318. As a result of the contract in restraint of trade, Allergan and the Tribe have effectively excluded competition from the Restasis market, allowing Allergan to unlawfully maintain its monopoly in the Restasis market, and Allergan and the Tribe have profited from their illegal contract by maintaining prices at artificially high levels.

319. There is no legitimate business justification for the anti-competitive actions of Allergan and the Tribe and the conduct through which Allergan maintained its monopoly in the market, including the contract between Allergan and the Tribe. The anti-competitive effects of Allergan's and the Tribe's contract far outweigh any conceivable pro-competitive benefit or justification.

320. As a direct and proximate result of Allergan's and the Tribe's unlawful actions, Plaintiffs and Class Members Class have been forced to pay supra-competitive prices for Restasis and are suffering continued injuries to their business or property.

321. Plaintiff and members of the Class are entitled to treble damages to remedy the injuries they have suffered from Allergan's violations of Sherman Act § 1, 15 U.S.C. § 1.

COUNT 4 - VIOLATION OF SECTION 2 OF THE SHERMAN ACT, 15 U.S.C. § 2 CONSPIRACY TO MONOPOLIZE

322. Plaintiff incorporates and re-alleges, as though fully set forth herein, each of the paragraphs set forth above.

323. Allergan and the Tribe have conspired to allow Allergan to willfully maintain and unlawfully exercise monopoly power in the Restasis market through the anti-competitive contract in restraint of trade with the specific intent to monopolize the Restasis market.

324. As a result of the conspiracy, Allergan and the Tribe have effectively excluded competition from the Restasis market, unlawfully maintained Allergan's monopoly in the Restasis

market, and profited from their anti-competitive conduct by maintaining prices at artificially high levels.

325. There is no legitimate business justification for the anti-competitive actions of Allergan and the Tribe and the conduct through which Allergan maintained its monopoly in the market. The anti-competitive effects of Allergan's and the Tribe's agreement far outweigh any conceivable pro-competitive benefit or justification.

326. As a direct and proximate result of Allergan's and the Tribe's unlawful actions, Plaintiffs and Class Members Class have been forced to pay supra-competitive prices for Restasis and are suffering continued injuries to their business or property.

327. Plaintiff and members of the Class are entitled to treble damages to remedy the injuries they have suffered from Allergan's violations of Sherman Act § 2, 15 U.S.C. § 2.

XI. PRAYER FOR RELIEF

WHEREFORE, Plaintiff and Members of the Direct Purchaser Class pray for relief as set forth below:

A. Certification of the Direct Purchaser Class pursuant to Federal Rule of Civil Procedure 23, and appointment of Plaintiff as Class Representative for the Direct Purchaser Class and its counsel of record as Class Counsel for the Direct Purchaser Class;

B. Permanent injunctive relief that enjoins Defendant from violating the antitrust laws and requires it to take affirmative steps to dissipate the effects of the violations;

C. That acts alleged herein be adjudged and decreed to be unlawful monopolization in violation of the Sherman Act, 15 U.S.C. § 2;

D. That acts alleged herein be adjudged and decreed to be unlawful overarching scheme to monopolize in violation of the Sherman Act, 15 U.S.C. § 2;

E. That acts alleged herein be adjudged and decreed to be unlawful restraints of trade in violation of the Sherman Act, 15 U.S.C. § 1;

F. That acts alleged herein be adjudged and decreed to be an unlawful conspiracy to monopolize in violation of the Sherman Act, 15 U.S.C. § 2;

G. A judgment against Defendant for the damages sustained by Plaintiff and the Direct Purchaser Class defined herein and for any additional damages, penalties, and other monetary relief provided by applicable law, including treble damages;

H. By awarding Plaintiff and Members of the Direct Purchaser Class pre-judgment and post-judgment interest as provided by law, and that such interest be awarded at the highest legal rate from and after the date of service of the complaint in this action;

I. The costs of this suit, including reasonable attorney fees; and

J. Such other and further relief as the Court deems just and proper.

XII. DEMAND FOR JURY TRIAL

Plaintiff, on behalf of itself and others similarly situated, hereby requests a jury trial, pursuant to Federal Rule of Civil Procedure 38, on any and all claims so triable.

DATED: January 17, 2018

Respectfully submitted,

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